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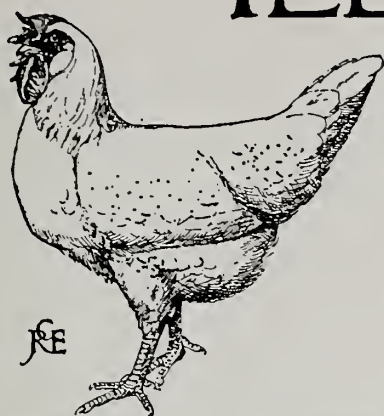
Jubilee Orpington Cockerel.

SEE PAGES 586 AND 587.

1st Crystal Palace, Birmingham, and 1st Special Bromley, 1909.

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THE ILLUSTRATED POULTRY RECORD



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EDITORIAL NOTICES.

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The Editor will be glad to consider any MSS., photographs, or sketches submitted to him, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury he cannot hold himself responsible for MSS., photographs, or sketches, and publication in the ILLUSTRATED POULTRY RECORD can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all pictures and MSS. All rights of reproduction and translation are reserved.

The Editor will be glad to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The Annual Subscription to the ILLUSTRATED POULTRY RECORD at home and abroad is 8s., including postage, except to Canada, in which case it is 7s. Cheques and P.O.O.'s should be made payable to Brown, Dobson, and Co., Limited.

The ILLUSTRATED POULTRY RECORD is published on the first of every month. Should readers experience any difficulty in securing their copies promptly they are requested to communicate immediately with the Editor. The latest date for receiving advertisements is the 20th of the month preceding date of issue.

The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser he is requested to communicate at once with the Editor.

Technical Instruction in Poultry-Keeping.

Our article on "The Cinderella of Agriculture," by "Statistician," which appeared October, 1909 (Vol. II., page 6), has evidently borne fruit. It will be remembered that we pointed out the decline in the Residue Grant from the "Whisky Money" received by County Councils, due to the reduction of consumption. In 1901-2 the total amount was £551,642; in 1907-8, £463,053, a decline of £88,589, or nearly 16 per cent. The reduction in amount applied to Agricultural Education was £11,150, or 13 per cent., and applied to Poultry Instruction was £730, or nearly 23 per cent., and of the total Residue Grant slightly over $\frac{1}{2}$ per cent. was applied to instruction in poultry. Since that time the Development Act has been passed, from which we hope much so far as the higher branches are concerned, but that does not meet the position in our counties. It is satisfactory to note that the Chancellor of the Exchequer in his annual Budget statement, on June 30, proposed that the deficiency in the Residue Grant shall be made good from Central Funds, and we hope this may be carried out, provided that it is conditional upon County Councils applying the money to technical and not elementary education, and to instruction in subjects which will benefit the greater number and not the few. Whether this will be so or not depends to a considerable extent upon poultry-keepers in each locality. As pointed out in the last issue, they have been far too modest in their demands, and have not done themselves or their industry justice. What we ought to aim for is that practical instruction in this branch shall be available in every county. "Statistician" deals in his own way with this question in the present issue, and gives some important facts.

£18,000 for Poultry at Cornell.

Statements have been made for some time that Cornell University has been seeking a large grant from the New York State Legislature for the extension of its poultry plant, which, in view of the increasing number of students and the valuable experimental poultry work carried out by Professor James E. Rice and his helpers, has been totally inadequate. The welcome news has come to hand that both Houses of the Legislature have passed, and Governor Hughes has signed, the Bill, by which \$90,000 will be available, so that we can warmly and heartily congratulate Professor Rice and Cornell upon having accomplished their purpose, so far as the money is concerned, and the New York State upon the public spirit of its representatives. A fine building is to be erected for the Poultry Department, and the practical and experimental plant is to be vastly extended upon a farm of fifty acres. We may look forward to this being the finest plant in the world, and Cornell will be justly proud of it as well of having been the first to create a Professorship for Poultry. Commenting upon this notable fact, *Farm Poultry* says:

Only those who have been in close touch with poultry work at our agricultural colleges know what an uphill job it has been to secure adequate recognition of poultry. Sometimes the authorities at the colleges have been hard to convince of the needs of poultry education. Oftener the difficulty has been to make Legislatures, which hold the purse-strings, see it. The poultry instructors have been in a position where they felt it too keenly, and almost without exception have been doing more work than available funds would warrant.

We can only say: What would they feel if they were in Britain? At Cornell the poultry staff is greater than at all the British colleges combined. Half the grant it has secured would materialise a National Poultry Institute, but that half is difficult to get.

The Poultry Club and the Judges.

Among all the discussion that has raged round the notorious judge rule passed at the last Dairy Show and rescinded a few weeks ago at Birmingham, no one appears to have invited an opinion from the affiliated societies and specialist clubs. The omission is the more remarkable because these are the bodies most affected by the rule, and their opinion might at the present juncture decide the vexed point and lead to a happy issue on this very debatable question. No one can deny that the clubs and societies affiliated to the Poultry Club, representing the best and the most influential bodies of this class, have a very good right to a voice in such discussions affecting their own welfare

very closely. If they object to the rule now rescinded, their objections must be based on solid grounds, and should constitute a guide to the Club in its subsequent consideration of the subject, whereas, on the other hand, if these societies are in favour of the rule and desire its re-adoption, their opinion would provide an equally powerful mandate for its resurrection. Where the opinion of the members is so sharply and evenly divided, as in this case, it is by no means extravagant to suggest that the parties most directly interested be consulted, and the position of these affiliated clubs and societies justifies the reference to them of such an important item. We would point out that at neither of the general meetings at which the rule has been discussed have these bodies been privileged to cast a vote, and for practical purposes they have had no voice whatever in the settlement of a matter that concerns them more closely than anyone else.

How Diseases are Spread.

In the happy future, when poultry-keeping enjoys the patronage and paternal care of a Government Department, someone will doubtless suggest the adoption of drastic measures to check the spread of contagious and infectious diseases. Among other things it may be found necessary to establish control over dealers' premises by means of inspection, and, in this way, probably, a very serious menace may be removed. When an epidemic occurs the dealers' yards become merely an exchange for the distribution of infection, and one or two instances that have come to our notice demonstrate the extent of the mischief that may prevail when a serious outbreak occurs. In one instance, a poultry farmer, who stocked his yards with low-priced birds from a dealer, lost nearly the whole of his stock within twelve months through the spread of tuberculosis, and the loss proved his undoing. In another case, an amateur, with a healthy stock of fowls, purchased four cheap pullets and lost them all and half of his own within three months from the same cause.

Poultry System.

From time to time we have had advertised in this country systems of poultry-keeping which promised fortunes to those who adopted them, and they are not unknown even to-day. But it is evident that Britishers are either unenterprising or too conservative to make such ventures profitable. Of late there has been quite a system boom across the Atlantic, and the amount of money spent in advertising the various cults is amazing. Evidently purchasers are found, or the game would come to an end.

If a sale of books can be secured there is plenty of profit, for as books they are dear at the money, though if one-hundredth part of the assumed knowledge were what it claims to be, they would be cheap. But that is not all. From some of these precious brochures we find that to achieve success nearly everything in the shape of appliances must be purchased from the vendor-publishers. In this way the ignorant novices are exploited. That trick is not unknown here, and is sufficient to stamp the whole thing as unworthy of attention. Unfortunately, many part with their cash, deceived by specious statements. In Britain probably the law is more stringent than in the States, but even there we should imagine that such "false pretences" would be sufficient to stop practices of this kind. As a rule, however, people do not care to expose their own folly. Recently, one of these System Companies was asked to give the name and address of a man who is held up as a wonderful example of fortune-making out of hens, but refused to give these, from which we may reasonably infer that he does not exist and has never existed. Systems are generally swindles.

Maturity in Breeding Stock.

Killing the goose that lays the golden egg is both ancient and modern. Haste to secure the full fruition often destroys or reduces the essential quality. It may be that the injurious effects are small each season, and, therefore, are ignored, but the accumulated influence leads to degeneracy. We are led to these observations by reading in the *American Poultry*:

We have a circular from an eastern firm saying that they will not under any circumstances sell eggs for hatching from pullets. They plainly say that pullets are much more profitable as egg-producers than old hens, but they do not consider eggs from pullets good enough to sell to their customers, who want them for hatching purposes.

There is more than mere talk in this. If we are to retain the vigour of our flocks, we must hatch our chickens from hens more than a year old. Hens past two years are not very profitable as layers, but the eggs from such hens should certainly hatch out better chicks than those from immature pullets.

With this the majority of older and more experienced breeders will cordially agree, so far as the theory is concerned, even though they do not always conform to it in practice. For the production of early chickens and ducklings which are to be killed, no harm is done by the use of yearlings as breeders, and frequently such must be utilised, but for breeding and laying stock, in which vigour of constitution is of supreme importance, mature birds are

essential, and they alone should be employed for that purpose. Any other course is an economic blunder. Under natural conditions we need not trouble ourselves quite to the same extent, but with intensified methods it is a very important question.

The Value of Dead Poultry Exhibits.

The schedule of an important county agricultural show held during the month contained a special request that exhibitors in the Table classes should put "a *reasonable* price upon the birds in order that they might not have to be returned." The question thus directly raised by a responsible and experienced Committee is one that is of considerable importance to exhibitors, who are, in any case, notoriously shy of hot-weather shows. The main point is to encourage entries in a section that should be of considerable value, if sufficiently supported by those producers whose exhibits would provide a useful object-lesson. The difficulties to be faced include the uncertainty of the result to the individual who is asked to divert his specimens from the more certain channels of marketing, at some additional expense of special preparation (which is of doubtful educational value) and the increased cost of separate carriage. If the exhibits are priced too low there is the risk of a poor auction, and if too high for the class of bidders, there is the danger of return and the consequent loss by deterioration to which the request referred to draws particular attention. The position should not be so impossible as it appears on the face of it, and in view of the great economic importance of developing this section of utility showing, it would be generally interesting and useful to know the views of those immediately concerned, and to arrive at some definition of what would be considered a *reasonable* price in the circumstances.

Roundabout Criticism.

A leaflet entitled "Fowl Cramming by Machinery" is being circulated with the object of drawing attention to what the author regards as an objectionable practice. A publication of the Board of Agriculture is quoted and criticised, and it is suggested that the poultry-fattening industry should not "be supported by the public and advocated by the Government of the Country." The adjective "cruel" is applied to the process, and is generally indicative of the impression conveyed to the mind of the writer, who bases his criticism upon a technical descriptive leaflet issued by the Board, and upon particulars given him by a friend who has "visited" Sussex. The humane impulse that prompted the writer is

most laudable, but it is seldom wise to condemn without full knowledge, and the risks of basing arguments upon "hearsay" evidence are manifold. The ill-founded charge of cruelty needs no serious refutation, and the Governmental Department will doubtless survive its condemnation, but the trade reputation of an important industry demands a contradiction of the statement that "The condition of these coops is what our friend describes as 'dirty and insanitary.'" This is one of the pitfalls of those who attempt a roundabout criticism. Anyone who really knows the inner working of the industry is well aware of the fact that cleanliness is essential to the maintenance of health, without which the efforts of the fatterer are in vain. The following quotation is fairly indicative of the knowledge of the writer, and of his friend who visited Sussex: "It is true that in many cases they [the coops] are washed out periodically with carbolic solution, but in between these cleansing days the condition of half a dozen fowls, kept continually on some three square feet of flooring, is better imagined than described." Not only is the space understated, but the inference is that the writer is entirely oblivious or ignorant of the fact that the "flooring" consists of wooden bars, and that the manurial product is daily removed from the ground beneath, the surface of which is always kept sanded or covered with fine mould, and disinfected.

Care of Appliances.

It was recently remarked, by one who is in a position to know something more than the average man about the appliance trade, that it is a very common thing for a user of incubators and other appliances to reckon the life of a hatching or brooding machine at no more than three years of full work. Without attempting to suggest how far such an estimate may generally apply, it may safely be said that it is altogether inadequate to the capabilities of good machines that are properly looked after. Some appliances are shamefully treated by their users; nevertheless, the average producer cannot afford (upon the basis of poultry-producing profits) to let his appliances go the way of so many agricultural implements. It might be thought that the economics of agriculture demanded some greater attention than is at present given to the preservation of implements; but however that may be, the poultry-producer must not neglect such an important detail. Good appliances are worth their money, and are seldom very cheap, so that their preservation is a vital necessity in many cases. When hatching is over, the incubator requires overhauling, cleaning, and, if necessary, repairing, and suitably storing.

The out-of-use brooder should not be exposed to the influences of the open, but promptly returned to the shelter of the store—after scrubbing, limewashing, painting, and curtain-scrubbing.

Dorkings.

That the Dorking has been going out of fashion of late is a recognised fact, and maybe it is due to the ease with which a good specimen can be kept for years for exhibition purposes. The Dorking Club, however, is awake to the fact that its breed wants a fillip, hence it now encourages the novice. Novice members are admitted to the club at a reduced fee, the entry-fee being 2s. 6d. and the annual subscription 5s. It has already been arranged that the Club Show for 1910 is to be held in connection with the International at the Crystal Palace in November, and that there will be four classes at the event for Novices, two classes for Dark Dorkings, and two for Silver Grey, the whole of these classes being for birds of any age. Mr. C. E. Richardson, Kirklevington Hall, Yarm, S.O., Yorkshire, is the hon. secretary of the Dorking Club, and he will be pleased to hear from anyone who would like to join the club.

A Spanish Story.

With reference to our article on "The Poultry Industry in Spain," a Spanish correspondent of ours sends in the following quaint story, which rather "gives away" the poultry-keeper in his native land, but at the same time supports what we have said as to the table qualities of the average Biddy as raised in Spain. Once on a time there visited the quaint old city of Burgos a genial Frenchman of an antiquarian turn of mind, who said that he admired all things that were old, and not cathedrals only. After a busy day of tramping about and sight-seeing and rooting around in a way that antiquaries alone can root, the worthy Frenchman came back to his inn, and awaited, with most pleasant anticipations, tired and hungry as he was, the appearance of that plump and juicy roast fowl that he had bespoken in the morning. Presently the meal was served by the good woman of the house herself, and the guest at once set to work. And it *was* work! After probing and prodding and cutting, the Frenchman was a little discouraged. It takes much to discourage an antiquary. At last he rings the bell, and on the appearance of the hostess does his best to explain himself in broken Spanish. Yes; the skin is excellent: the colour of the roasting is beyond reproach. Every bone is there complete. The gravy is a miracle. But, begging the pardon of madame, would it be very unreasonable to ask, "Where is the bird itself?" And there the story most mercifully stops.

IN THE HOME OF THE CHICKEN INDUSTRY.

By J. W. HURST.

I THINK it is always more interesting to know something further than the mere names of places to which direct or indirect reference is made with some frequency in the Press, and those who read will no doubt have noticed that those of us who write for the poultry Press from time to time mention the "chicken districts," the "Sussex industry," and the rearers and fatteners of the "South-East."

of the surrounding districts, the total area involved comprises some seventeen parishes or parts of parishes, and the whole forms a tract of country that is unexcelled in the United Kingdom for the grace and beauty of its scenery. In some aspects it is possible to sympathise with Gilbert White's grandiloquent description of the Sussex Downs as "that chain of majestic mountains," but generally one



PICTURESQUE FATTENING-PENS.

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More direct, but for the most part bald, mention is frequently made of such centres as Heathfield and Uckfield—which may or may not be known to the great majority as the names of stations on the London, Brighton, and South Coast Railway. Merely that and nothing more.

It is therefore quite conceivable that a brief descriptive introduction to the chief features of the home of the chicken industry may not altogether be supererogatory. Although the two places mentioned have attained a certain notoriety by reason of their importance as stations of departure for the poultry produce

prefers the "gracious line of hills," as they appealed to Coventry Patmore, when viewed from the Wealden Heights; and the Downs on the South with the answering Forest Ridge on the North form the broad boundaries of the favoured land of the chicken industry. Within the confines of the northern and southern hills, and their "Beacons" approximating to an altitude of 800 feet, lie the more open country of the Weald and the descents by either side of the vast main valley over repeated undulations and through wooded ravines and sheltered dells. Moreover, the openness of the Weald is only comparative, the flatness of the levels

and the breadth of the fields being plentifully broken by the frequency of shaws and woodlands that are both dense and wide. To the advantages afforded by the general physical formation of the main and lateral valleys must be added that of the southern situation and proximity to the seaboard, the region being climatically well suited to the general purpose of those who have developed in that portion of East Sussex the most notable and successful branch of the poultry industry. Nevertheless, the whole of the area with which we are concerned is not as geologically suitable for rearing as might be wished, although much of the land is naturally light. The formation is that known as the Hastings sands, composed of alternations of sands and clay, but although the sands predominate they are in part overlaid by the Wealden clay—the clay thinning towards the East. Although the soils of ten of the parishes within the area are variously described as sand, subsoil clay; loam, subsoil limestone or clay; loam and clay, subsoil sand; clay and sand, subsoil clay; the remainder are almost entirely clay, upon sand and gravel. It will therefore be seen that there are some drawbacks to the generally favourable physical conditions, and although the opinion has been advanced in a book of very recent issue that soil has very little to do with the matter, I am, on the other hand, convinced that, but for their exceptional skill (plus the suitability of the local breed), some of the Sussex folk would be defeated in what is peculiarly their own industry.

Such, in general, is the home of the chicken-rearing and fattening industry, and although the rearers that supply the fattening-coops are nowadays more widely spread, the fatteners for the most part remain around and within easy distance of the two chief stations of departure—Uckfield and Heathfield.

"Hefful," to give the latter the local pronunciation, is historically famous as the place where Jack Cade was slain, and has figured in the art of Turner, whose "Vale of Heathfield" is by some considered the best of all his Sussex pictures; whilst in the annals of the poultry industry it is notable as the foremost centre for the collection and distribution of chickens, in which capacity it serves a wide radius. Yet, despite its importance from our point of view, the place itself is no more than a large and straggling village, but well supplied with mills equipped for the manufacture of that famous local product—Sussex ground oats; and the carpenters of the locality are expert makers of fattening-coops, which with the other implements of the craft are all made extensively within this parish. Near by is the hamlet of

Punnet's Town, with its complement of higg'ers. To the north is "Mäavul," known to the uninstructed as Mayfield, set on the summit of a hill commanding a rich and varied prospect including many fertile rearing grounds. The town is one of the few remaining old-world places, full of half-timber houses and reminiscences of its former ecclesiastical importance. Still further north is the picturesque village of Rotherfield, which is the most important parish in that direction of the group more immediately connected with the industry.

Within the Heathfield radius, in a more easterly direction, is Burwash, and almost due east are Brightling and Dallington; while to the south-east is Ashburnham, the interjacent country being all included in the happy hunting grounds of the chicken collectors. Immediately southward of Heathfield are Warbleton and Horeham, and the district as far south as Hellingly and Hailsham—whilst to the west the regions more closely connected with Uckfield, as their centre for collection and distribution, are soon entered. The importance of Heathfield in relation to the districts served by its station may be gauged from the fact that the annual imports of live chickens from Ireland that are distributed from the centre approximate to an annual weight of some 700 tons, whilst the total output is in the neighbourhood of 2,000 tons; and it has been estimated that this station deals with nearly five-sixths of the bulk of the poultry fattened in the districts as a whole. In view of the smallness of the units dealt with, whether lean or fattened, the aggregate is no insignificant weight; and if the total be resolved into its component parts, it will be realised how large an area is concerned in the production.

Some seven or eight miles due west of Heathfield is Uckfield, the second capital of the chicken industry—but the two centres are separated by about twenty miles of railway, being situated on two branches of the same system, connecting at Edridge for Tunbridge Wells, and terminating in the first case at Polegate and in the second at Brighton. In this connection it may be noted, in passing, that although the home of the industry was founded before the railway was made, the districts have proved to be most admirably situated in view of the facilities now afforded for marketing in either direction. Not only are the Metropolitan markets easily and quickly accessible, but the towns of the South Coast are within the radius served by the centralised producers of East Sussex, and the opportunities afforded by the different seasons of demand are taken full advantage of in consequence.

The busy and growing little market town

of Uckfield, in its setting of beautiful and diversified scenery, is the daily rendezvous of the group of higgler who use it as the centre of the western division of the industry, and whose operations extend northward to the heights of Ashdown Forest and southward to the reclaimed waste of the Dicker beneath the swelling Downs. It was Dr. Johnson who said of the Downland that "if one had a mind to hang oneself for desperation at being obliged to live there, it would be difficult to find a tree on which to fasten a rope," but if this be true in part, the ascent to the opposed Forest Ridge is by way of thickly wooded undulations through Buxted, Maresfield, or Pilt Down—which, with the surrounding country that skirts the more open forest land, provide accommodation for innumerable chicken-rearers and several fattening establishments. Domesday Book mentions Uckfield as being in the Manor of Framfield, a large parish and village to the south-east of the town, beyond which in the same direction is Waldron; the former being notable in the

present connection as including Croxted, in the occupation of Mr. Dan Taylor, whose output of fattened fowls is the largest in the Uckfield district, and the latter as containing the farm of Mr. Nelson Kenward, who is one of the largest rearers in East Sussex. Speaking generally, however, it is the fatteners who provide the startling figures, reckoning chickens by the ton; the rearers being remarkable in the aggregate rather than individually. Nevertheless, although the output of individual rearing farmers and cottagers may be comparatively small at each collection, it must be remembered that the higgler collect every fortnight the year through, so continuous is the work of rearing.

For the most part the fatteners who use Uckfield as their station of departure are

located to the south and south-east of the town. The largest collection (that is made three times weekly) of dead poultry for the London poultry train covers an area in the direction indicated of some seventeen square miles. This collection includes East Hoathly, Chiddingly, the Dicker, Laughton, Rype, Chilmington, Ringmer, and their neighbourhoods—out upon a great reach of level pastures with their flocks of sheep and herds of cattle, the estuary of a mighty river which once drained a prehistoric continent. Here, almost overshadowed by the bold outlines of the Downs—the boldness softened by the colouring and velvety surface—are two notable but almost isolated hostelrys, of more importance by

reason of their situation where many roads meet in the midst of a sparse population within a triangle of widely separated railway lines. The Bat and Ball is known to all flock-masters as the scene of a lamb fair, now dwindling to extinction and belonging to the past rather than to the present of weekly and fortnightly auction markets. Never-



INTERIOR OF A SUSSEX FATTENING-SHED.

[Copyright.]

theless, although only fifty miles from town, it might well be five hundred miles from anywhere; and it is restful in these days to meet shepherds in round frocks—a useful garment also in the throes of extinction. The other meeting-place is the Golden Cross, where higgler and chicken people meet and halt—the foreground filled with collectors' carts and their crates of live chickens, and the returning carriers' vans filled with pads of dead fattened fowls ready for dispatch from the far-distant station at Uckfield. Here one may talk "shop" without offence, but it is more interesting to listen than to talk. Such wayside and otherwise desolate inns in some measure serve the purpose of exchanges for those engaged in such an industry, so widely scattered and so full of ramifications. Although the higgler overrun one another to a

considerable extent in their overlapping collecting rounds, the supposed benefits of such keen competition are largely—from the rearers' point of view—counteracted and modified by the confidences exchanged during the conviviality of such meetings at cross-road houses of call. The situation is, however, to some extent saved by that impatience of compulsion which makes the Sussex man so suspicious of all that savours of co-operation. The genuine native of unmixed race, with characteristically blue eyes and light hair, may be known not only by the ripeness of his dialect but by the tenacity of his individual purpose; his crest "a hog," and

his motto "We wun't be druv." In dealing with such I have eloquently argued by the hour together, without influencing the immobility of countenance or altering the fixed determination. It is the more strange that men who will buy at their own price, or not at all, will, on the other hand, leave the fixing of the selling price to the distant London salesmen. By way of example of this attitude one of the largest fatteners, upon whom I sought to impress the benefits of co-operative marketing, told me he would rather trust the salesman than his nearest relatives.

POULTRY THROUGH THE MICROSCOPE.

I.—AN INSIGHT INTO EGGS.

WRITTEN AND ILLUSTRATED BY JAMES SCOTT.

THE essential feature of an egg is, as many breeders know, an invisible germ embedded in a certain part of the mass of albuminous substance for which alone the latter exists. We may eat eggs wholesale, and vote them nourishing, but the solid fact remains that all the complicated substance within a single shell is arranged for the sole benefit of a speck of remarkable minuteness. The germ of a chick is so tiny that, even when magnified several thousands of times, it still resembles nothing larger than an ordinary pencil dot on paper—not a *magnified* dot, bear in mind. It will enlighten us if we examine an egg. When an egg leaves the ovary, or egg-factory, it is an elliptical yellow ball, consisting of a number of layers one around the others. On it is loosely fixed a germinal disc containing a bladder, or vesicle, in which is the reproductive germ. The germ soon escapes from the bladder, ready to commence the work of multiplication into cell formation; at which time the bladder disappears as such. The germinal disc, under this influence, divides into two sections, and these into four, and these again into eight. This doubling process continues until the disc consists of two united cellular layers—that is, a double one, like a sheet of folded notepaper—of the kind found in the laid egg, and then called the blastoderm.

While this modification is in progress the yellow ball is being covered with layers of albumen, separated from each other by exquisitely fine fibrous netting, which breaks apart

at the slightest outward touch. Lime solution is then automatically deposited over the surface, and when it has hardened we get the perfect egg.

If we begin the examination with a shelled and mature egg, we can get a better insight into the strangeness of the matter. The hard shell contains two combined layers, both so porous as to admit air, and, to a certain extent, moisture. Wet eggs, however, hinder the penetration of air, which is necessary, when warm, for the welfare of its changing contents.

The structure of egg-shell can be well seen, when magnified, if a piece be blackened by burning in the flame of a match and then laid in water, which will wash away certain surface particles of soot, leaving the air pores, and so on, distinct and clear through permeation of carbon atoms. In illustration No. 2 is shown such a piece of shell, magnified. The substance is really composed of an immense number of granules, stuck edge to edge (on the same arched principle as the stones on a bridge) and having a central mass of hollow tubes running from outside to inside through them like rosettes of fibres. This structure is best seen on the inside of the shell.

Within the shell is the familiar double membranous lining, which is disconnected at the broad end so that a gradually enlarging air-space is formed between the skins, its size depending on the age of the egg. Upon magnifying a thin section of a membrane, it is found to consist substantially of a lace-like netting

of hollow fibres of the kind magnified in illustration No. 3. Thin lime fills up most of these meshes. The material is really a textile fabric, or paper.

Inside the egg we have the albumen, a

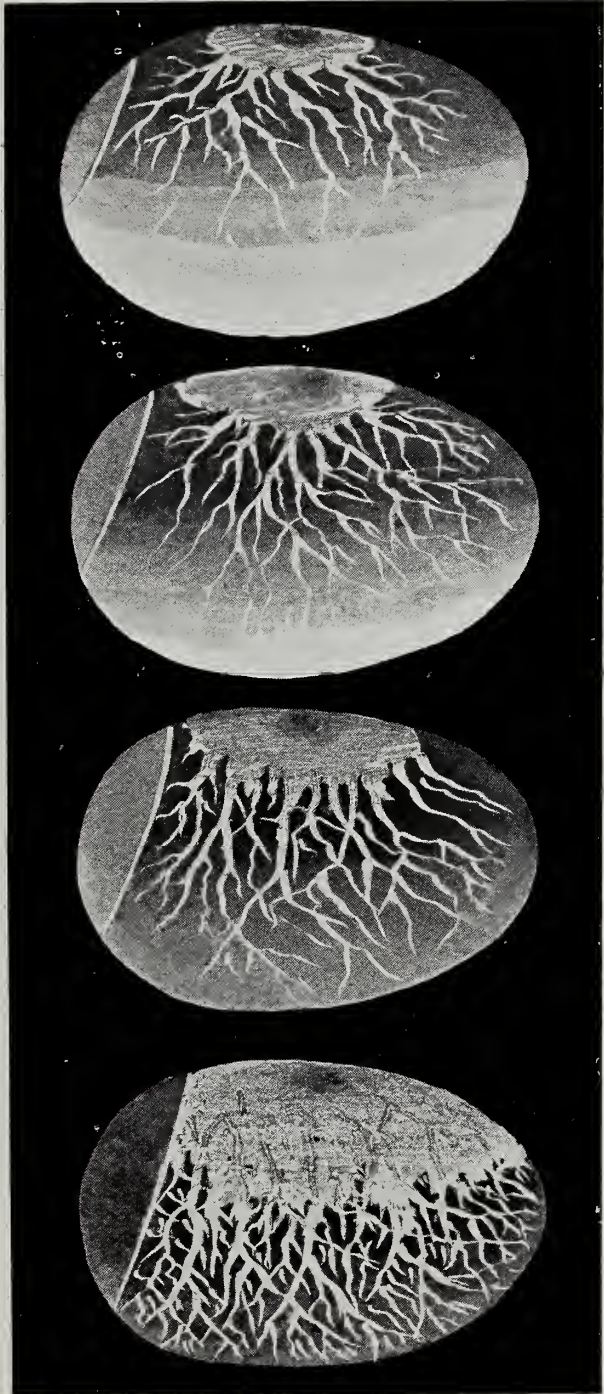


Fig. 1.—Various stages in the development of a hatching egg, from the 1st to the 14th day. [Copyright.]

substance that puzzles chemists and biologists in regard to defining its exact constitution. In this is suspended the yolk, by means of a twisted fibrous string, at each side, called the *chalazae*, because of its minutely beaded appearance. This is an important object, for its function is to maintain the yolk always in a special position, no matter how the whole egg may be placed. In uninjured eggs it will

constantly be found that the germinal area—which is called the blastoderm—is uppermost, so that it can be the better adapted for receiving the warmth of the hen. These curious *chalazae* and their immediate adjuncts are the portions popularly known as the “tread.”

It is to keep this blastoderm continually upright that the supporting *chalazae* exist. The blastoderm above resembles an opalescent, jellified lens, and contains the germinal cellular layers already referred to. This is the portion that multiplies to form the chicken, and its presence is denoted, when held up to the light, by its opacity. It becomes the nucleus, or central station, whence a number of tree-like lines, which are the ultimate blood-vessels and nerves, as in illustration No. 1, radiate into the albumen to suck up and transform it into flesh and blood and feathers. The lines increase in number and branch off finer and finer, the egg getting gradually darker meantime. The density commences in the vicinity of the germ, and subsequently entirely fills the shell. Atom by atom the substance is completely transformed from its original condition, until it springs out as a living thing that chirps!

The yolk is the *vital* part and the albumen the *food* for the generating chicken. The yolk's exterior is known as the vitelline layer. Vitelline, by the way, is a peculiar, crystal-



Fig. 2.—A tiny piece of fowl's egg-shell magnified in a 1-30 inch pinhole, showing its granular formation and air pores. [Copyright.]

line substance. A valuable substance, called lecithin, which is a genuine food for the nerves, as it contains phosphorus, exists in

great abundance in egg-yolk. It is the main ingredient of a highly appreciated, much-advertised nerve remedy. Of course, no one can properly say how all the essentials combine to give life to the contents—it is beyond us to

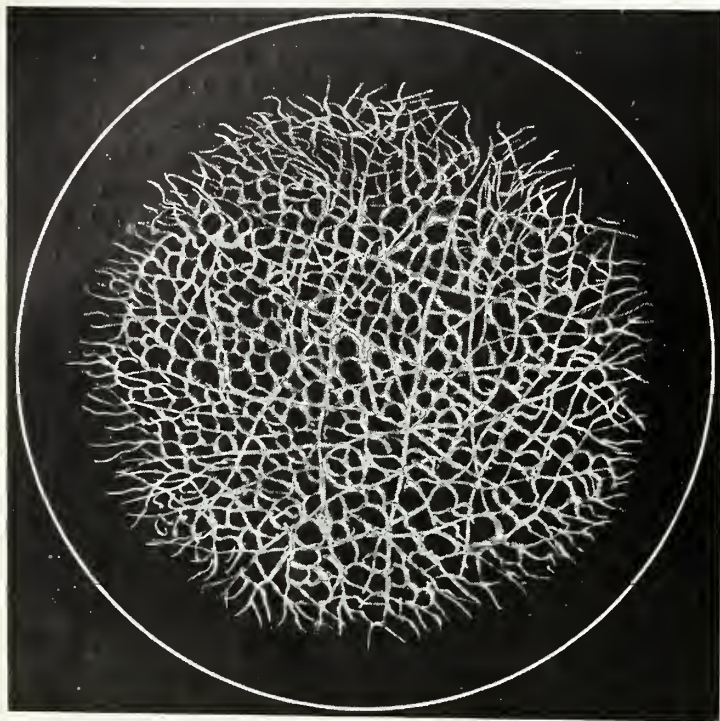


Fig. 3.—A piece of inner membrane from a fowl's egg, magnified in a 1-30 inch pinhole. [Copyright.]

detail the phenomena, even if we use descriptions that give a good clue to the problem.

Although we may closely examine the albumen of an egg, we find no structure therein; yet the yolk discloses something of the kind. If we magnify a portion of the outer yolk while it lays in a drop of water, we see that it is full of granular, globular shapes which separate and float away in groups or as solitary specimens. When the spheres break they discharge an organised, ferment-like host of specks the significance of which is too technical to be dealt with in these pages. Some groups of specks, thus released, may be seen adjacent to the balls in illustration No. 4. The whole of the yolk is very similar to the intact piece shown in the middle of the same illustration.

This chat about eggs will be far more complete if I deal with the awkward facility they have for decomposing or "going bad." At the same time that a fowl germ is ensconced in its position, others of less beneficial character gain entrance to the egg. They may get in by means of food, and thence to the blood supply and to the ovaries, or in many ways are enabled to lodge themselves inside the egg before it is shelled. This fact would seem to indicate that the coating of eggs with isinglass and other protective, and presumably preserva-

tive, substances must be futile; but it does not follow that the practice is useless. Most of the germs (bacteria and bacilli) that find their way into eggs need air to aid them in their development, and this is obtained through the shell pores; so that, by covering eggs, the germs are deprived of "breath." However, some kinds *can* live without oxygen—the anaerobic members—and are capable of converting any egg containing them into a putrid mass. The freshest of eggs are never free from microbes of some kind or another.

There are two ways in which an egg decomposes. When any of the ten varieties of *Bacillus oogenes hydro sulphureus* have seized upon the contents, the albumen turns greyish-green or greyish-white and the yolk becomes black-green, while both constituents ultimately coalesce into a rotten mass that gives off the gas sulphuretted hydrogen. This is the odour to which townsmen are often subjected when

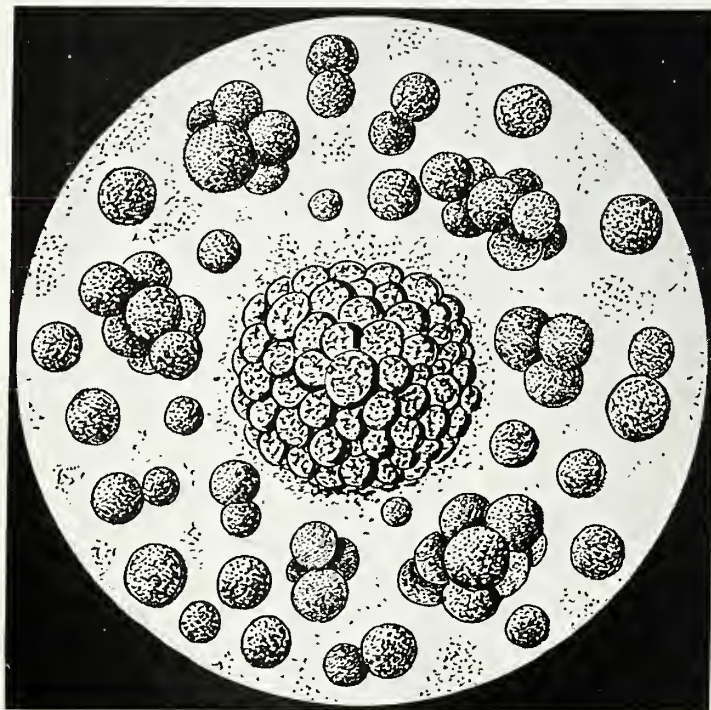


Fig. 4.—Some yolk of fowl's egg, magnified through a 1-24 inch pinhole. [Copyright.]

they live near gas factories, and which greets the farmer's nostrils when he goes near a sewage farm in the evening.

The second style of decomposition is occasioned by *Bacillus oogenes fluorescens*, of which there are five varieties. No sulphuretted hydrogen is liberated in this case, but odours common to some excrements are characteristic of its changes.

Without the fungi, or moulds, bacteria would often encounter difficulties in breeding. The moulds break down the foods on which they grow into simpler ingredients, so that microbes

can utilise them. It often happens that when a cooked egg is opened one end of the white will be



Fig. 5.—Some fungi, or mould, on a bad, cooked egg. The spores of fungi and bacteria (germs or microbes) can enter through the pores of the shell. A magnified 1=24 inch pinhole. (Copyright.)

noticed to have shrunk away from the shell, and to be covered with a red, green, yellow, or black powder, which really consists of patches of microscopical fungi, killed by the heat of boiling. They grow in the air spaces of uncooked eggs, which spaces are caused by the retraction of the membrane hitherto mentioned. The "roots" of the fungi penetrate the pores shown between the fibres in illustration No. 3, and find nutriment by piercing the albumen.

If a cooked bad egg and a cooked good one, both partly shelled, be placed side by side for a few days, the former will get covered with mould much quicker than the latter. In illustration No. 5 is depicted a crop of microscopic fungi (exactly as I saw the spectacle) that grew on a bad egg. There are three kinds of fungi in the group, these being the brown-ball *mucor*, the white palmate *penicillium*, and the branched necklaces, which has more than one name. A sketch of this kind will clearly show how intricate and thorough are the building up and breaking down processes of Nature. They concern the egg-producer and breeder, because they explain that the cleaner the houses and surroundings are, the less will be the number of germs that get picked up and transferred into the eggs.

THE "WHISKY MONEY" AND POULTRY INSTRUCTION.

By "STATISTICIAN."

THE announcement made by the Chancellor of the Exchequer in his Budget speech, on June 30, that he proposes, out of the estimated surplus for 1910-11, to make good to County Councils the loss arising from decline in the "Whisky Money" is welcomed by all who are concerned in rural pursuits. The need for some such step as this is evident, especially in view of the imperative importance of affording the new race of small holders an opportunity of obtaining instruction in the various branches of agriculture. The report recently published by the Board of Agriculture records that up to December 31, 1909, 60,889 acres had been actually acquired, or agreed to be acquired, by County Councils in England and Wales, providing land for 6,600 applicants. Probably in a year or two this area will be doubled, maybe trebled. It is not, however, a question which alone concerns the new settlers. There are already on the land a multitude of people who require instruction to an equal extent.

In the POULTRY RECORD of last October attention was called to the way in which County

Councils have neglected the poultry industry, and to the fact that twenty-four of those bodies during 1907-8 expended no money at all on the promotion of that branch of live stock, whilst of the rest only four devoted 10 per cent. and upwards of the agricultural payments to poultry. As was afterwards pointed out by Professor Blackshaw, the figures, taken from the Board of Agriculture's Report, did not in all cases do full justice to some of the counties. For that, however, I was not responsible, having only the data officially provided to work upon. Even allowing for a few such instances, it cannot be denied that there is practically no county in England and Wales which has even attempted to deal fairly with poultry education. This has ever been totally starved, or had a few crumbs thrown to it. For instance, in the high-water mark year, 1902-3, of the total residue grant allocated to County Councils primarily for technical teaching in practical subjects, poultry received a fraction over 1½d. in the pound; and out of the money expended on agricultural education by County Education Committees not quite 9d. in each pound

was devoted to poultry. In that year the task of controlling Elementary Education was placed upon these Councils. Since then things have got worse. Not only is there less cash available for the reason already stated, but such as remained has been to some extent devoted to other purposes. In some counties the teaching of subjects such as poultry has been dropped, and the money used for training pupil teachers, which surely belongs to an elementary system of education. It should be our object, when the excuse for such procedure is removed by additional Treasury Grants, as proposed by Mr. Lloyd George, to see that County Councils expend the money fairly. We hope the Government will insist that it shall be used for technical instruction and that alone, and also that it shall be distributed in accordance with the importance of the various branches of rural industry.

This is a question of food supply as well as national industry. The way to judge what branches of production should receive encouragement, and to what degree, is to consider the needs to be supplied in relation to the possibilities of increased output. We import five million pounds' worth of tobacco every year, but it would be folly, in the light of present conditions, for public bodies to spend monies in teaching how to grow that plant. When, however, we are dealing with food supplies which can be profitably produced at home, which would materially assist those already on or coming upon the land, and which are increasing rapidly in demand, surely the encouragement of these should be cordially and eagerly considered. Great has been the growth of poultry-keeping in this country, but vastly greater would have been the result had County Councils been sympathetic. Encourage anything but cocks and hens, has seemed to be their idea. With the view, therefore, of pressing this matter home, I have prepared the accompanying diagrams dealing with the various counties in detail, omitting London for obvious reasons. There are other districts where it would be impossible for production to equal demand, but these cannot be separated from the surrounding areas.

The first diagram estimates the consumption in values of eggs and poultry in each county on the basis of an average expenditure upon these two products equal to 11s. per head of the population per annum. It is unnecessary to state how this has been arrived at, but when the Production Census returns are issued, we shall be able to check that calculation, which is sometimes regarded as too low. For my purpose the statistics of the 1901 Population Census have been used, as there are no others

available. Consumption is very variable. In some districts more poultry are eaten than in others where eggs are greatly favoured. But I do not know how to do more than take a general average, and probably it will not be far from correct. The diagram forming the centre represents these figures in a manner easily understood. Such forms the true foundation upon which claims for increased instruction in poultry-keeping must be made. Needs and opportunities determine comparisons. For instance, Lancashire has a population nearly ten times as great as Norfolk, yet we find that the sums expended on poultry instruction are £350 and £223 respectively, which means that *pro rata* Norfolk devotes nearly seven times as much of its residue grant to such education as does the County Palatine.

The columns showing "Number of Poultry Classes" and "Estimated Cost of Poultry Instruction" explain themselves, except that in the second of these I have attempted, where the Board of Agriculture Returns record no sum, but show that the cost is included with other subjects, to estimate the cost of such classes as have been given, so that, as far as possible, the case may be stated fairly. Special attention is called to those counties where instruction was provided. In some cases, however, grants are made to colleges and schools where some poultry teaching is given, which come under other headings and cannot be included. These do not, however, seriously affect the calculations.

The last column is the standard by which County Education Committees must be judged. It shows, not how much money has been expended, but how far such expenditure is relative to the need as indicated by the total value of eggs and poultry consumed within its sphere of influence and responsibility. I commend the study of this column to every resident in every county. With the exception of the small counties of Huntingdon and Radnor, where the expenditure is abnormal and temporary, the only county which has approached an adequate relative system is Wiltshire. Of the rest eighteen counties spent nothing whatever on poultry instruction; eleven spent less than 3d. for every £100 of eggs and poultry consumed; five spent more than 3d. and less than 6d. per £100; seven spent more than 6d. and less than 1s. per £100; six spent more than 1s. and less than 1s. 6d. per £100; and two spent more than 1s. 6d. and less than 2s. per £100. It should be remembered that the average in many of the largely agricultural counties should be greater than where industrial areas abound, because production to them is of special importance.

I.—County Consumption of Eggs and Poultry and Instruction, 1908.

County.	Estimated Consumption of Eggs and Poultry.	Comparative Consumption of Eggs and Poultry (Values).	No. of Poultry Classes	Cost of Poultry Instruction.	Expenditure on Instruction per each £100 Consumed.
	£			£	s. d.
Anglesey	19,144	-	none	nil	nil
Bedford	96,234	—	5	10	0 2·5
Berkshire	155,942	—	none	nil	nil
Brecon	29,673	—	none	nil	nil
Buckingham	95,183	—	36	72	1 6·17
Cambridge (inc. I. of Ely). ..	110,374	—	20	40	0 8·7
Cardigan	45,488	—	18	30	1 5·85
Carmarthen	67,963	—	24	48	1 4·96
Carnarvon	75,479	—	none	nil	nil
Cheshire.....	426,050	—	none	nil	nil
Cornwall	175,225	—	none	50	0 6·84
Cumberland	146,813	—	25	31	0 5·07
Derby.....	270,067	—	none	nil	nil
Denbigh.....	69,551	—	2	4	0 1·39
Devon.....	365,583	—	25	157	0 10·31
Dorset.....	109,982	—	none	nil	nil
Durham.....	657,024	—	13	26	0 0·93
Essex	584,454	—	17	34	0 1·39
Flint	33,294	—	4	8	0 5·78
Gloucester	356,744	—	60	167	0 11·4
Glamorgan.....	476,437	—	none	nil	nil
Hants (inc. I. of Wight)... ..	422,734	—	none	nil	nil
Hereford	61,901	—	16	34	1 1·18
Hertford	131,863	—	16	43	0 7·83
Huntingdon	25,712	—	8	58	4 6·16
Kent	514,329	—	100	361	1 4·84
Lancashire	2,440,634	—	43	350	0 3·42
Leicestershire	242,512	—	none	nil	nil
Lincoln (3 divisions)	271,146	—	none	nil	nil
Merioneth	35,538	—	none	nil	nil
Middlesex	445,668	—	none	nil	nil
Monmouth	174,275	—	30	100	1 1·77
Montgomery.....	35,196	—	10	10	0 6·8
Norfolk	257,264	—	72	223	1 8·8
Northampton	191,920	—	10	21	0 2·62
Northumberland	331,715	—	none	nil	nil
Nottingham	328,187	—	16	32	0 2·31
Oxford	102,683	—	none	nil	nil
Pembroke	45,333	—	none	nil	nil
Radnor	11,134	—	30	28	5 0·54
Rutland	11,408	—	none	nil	nil
Shropshire.....	142,498	—	none	nil	nil
Somerset	256,406	—	80	209	1 7·56
Stafford	688,550	—	18	27	0 0·94
Suffolk, E. and W.	199,045	—	20	26	0 3·13
Surrey	395,191	—	10	20	0 1·22
Sussex, E. and W.	333,181	—	84	168	1 0·1
Warwick	498,633	—	48	45	0 2·17
Westmorland	35,424	—	5	10	0 6·78
Wilts	145,169	—	114	242	3 4·09
Yorks, East Riding.....	249,664	—	10	17	0 1·63
„ North Riding	206,754	—	25	47	0 5·45
„ West Riding.....	1,521,559	—	75	113	0 1·12

The statement has been made that in 1906 Irish Central and Counties' authorities expended, in promotion of the poultry industry, 7s. 7½d. for every £100 of eggs and poultry exported, especially in teaching and county schemes. That compares unfavourably with what was done in other directions, notably

horses and dairying, upon which the expenditure was 19s. 1d. and 13s. 1½d. per £100 of exports respectively. But it gives us a basis to work up. A modest proportion of the Residue Grant devoted to poultry instruction would be 5s. per £100 of consumption, or ½ per cent., which no one could regard as excessive. Upon this

II.—Diagram Showing Average Annual Expenditure by Counties in England and Wales for Five Years, 1903-1908, on Poultry Instruction.

(Taking 5s. per £100 Consumption as a Fair Expenditure, the Dark Lines show how far each County is below that Standard.)

County.	Annual Expenditure (Average) per £100 Eggs and Poultry Consumed, 1903-1908.	
	In Values.	-/2 -/4 -/6 -/8 -/10 1/- 1/2 1/4 1/6 1/8 1/10 2/- 2/2 2/4 2/6 2/8 2/10 3/- 3/2 3/4 3/6 3/8 3/10 4/- 4/2 4/4 4/6 4/8 4/10 5/-
	s. d.	
Anglesey	nil	nil
Bedford	0 8'08	_____
Berkshire	nil	nil
Brecon	nil	nil
Buckingham	1 0'31	_____
Cambridge.....	0 3'14	_____
Cardigan	0 10'57	_____
Carmarthen	0 4'24	_____
Carnarvon	0 1'14	_____
Cheshire.....	0 7'65	_____
Cornwall	1 1'47	_____
Cumberland	0 4'8	_____
Derby	0 0'85	_____
Denbigh	0 2'48	_____
Devon	1 0'93	_____
Dorset.....	0 3'05	_____
Durham	0 2'26	_____
Essex	0 3'71	_____
Flint	1 3'03	_____
Gloucester	0 5'13	_____
Glamorgan.....	0 0'19	_____
Hants	0 4'02	_____
Hereford	1 10'17	_____
Hertford.....	0 9'61	_____
Huntingdon	1 8'54	_____
Kent	1 7'34	_____
Lancashire.....	0 4'06	_____
Leicester	0 0'95	_____
Lincoln	0 4'1	_____
Merioneth	nil	nil
Middlesex	nil	nil
Monmouth.....	1 5	_____
Montgomery	0 8'19	_____
Norfolk	1 6'49	_____
Northampton	0 3'97	_____
Northumberland	nil	nil
Nottingham	1 1'61	_____
Oxon	0 4'11	_____
Pembroke	nil	nil
Radnor	0 6'03	_____
Rutland	0 2'94	_____
Salop	0 3'97	_____
Somerset	1 5'03	_____
Stafford	0 0'72	_____
Suffolk	0 5'74	_____
Surrey	0 1'19	_____
Sussex	1 0'92	_____
Warwick	0 2'36	_____
Westmorland	0 6'76	_____
Wilts	2 7'43	_____
Worcester	0 10'5	_____
Yorks, E. Riding...	0 3'29	_____
„ N. Riding...	0 9'3	_____
„ W. Riding...	0 1'74	_____

basis, therefore, taking five years' average expenditure on poultry instruction, we see in the second diagram how woefully deficient has been the provision made. If 5s. per £100 were devoted to poultry, the whole aspect of

affairs would be changed. An adequate staff of instructors and experimenters would be available, and these could receive adequate remuneration instead of the low salaries given in many instances.

WHO'S WHO IN THE POULTRY WORLD.

MR. HARRY WALLIS, J.P.

IT is probably as a breeder and an exhibitor of the Langshan fowl that the subject of this note is best known in the Poultry Fancy. Mr. Harry Wallis has been honorary secretary and treasurer of

world; but, although he still cultivates this popular flower, he does not exhibit it. Nevertheless, he has acted as judge of the professional classes at the Crystal Palace Rose Show, hence it scarcely needs to be added that he was an authority in that direction. He is also a good judge of horses, and keeps hunters and hackneys; and he is thought a lot of at the agricultural shows as an authority on them. He is a keen huntsman; and to encourage a good feeling between the hunt and the farmer, it is noteworthy that most of the farmers of land over which he hunts have Langshan or Spangled Orpington cockerels in their breeding-pens.

Mr. Wallis holds many offices in the Poultry Fancy, and is Chairman of the Council of the Poultry Club, of which body he is a Past-President.

M. IVAN BRACONIER.

THE President of L'Union Avicole de Liège is M. Ivan Braconier, some account of whose poultry-breeding operations was given in the POULTRY RECORD of June last (page 487). At his beautiful Château Modave he is developing a race to which he has given that name. M. Braconier is not content with being an ornamental President of the Society named, but takes a personal interest in its operations, and is a regular attendant at the meetings. He generously supports every movement for the promotion of the poultry



Mr. H. WALLIS, J.P.

the Langshan Society almost from its inception; it was in 1888 that he was first elected to that office. For more than twenty years he has kept the Black variety, and with it he has won more challenge cups and prizes than has any other exhibitor—too many of them, he will tell one—and on several occasions he has, to the writer's personal knowledge, kept his best birds at home, to enable other exhibitors to take a share of the prizes. Mr. Wallis is a strong advocate of the Langshan as a good breed for laying and table purposes as well as a suitable one for the show-pen. Latterly the Blue Langshan has been added to the stud kept at Northend, Warley, Brentwood, and already challenge cups have been won by his birds of this variety. Spangled Orpingtons, too, have been taken up by Mr. Wallis, and this season he has gone in for Rhode Island Reds.

It is not solely as a poultry fancier, however, that Mr. Wallis has "made a name." At one time his was a prominent name in the rose



M. IVAN BRACONIER.

industry, and has done much for its extension, equally on exhibition and practical lines, in the Liège district of Belgium, where there have been considerable developments during late years. He is

well known in other countries, by reason of his attendance at the Great International Exhibitions and Congresses. Unfortunately, M. Braconier does not speak English, and is not familiar to, or with, British breeders to the same extent. Opportunity and desire meet at Modave, and if his new breed realises the anticipations formed, he will have added greatly to his services to the industry.

MR. W. HOLMES HUNT.

MR. W. HOLMES HUNT, of Brook House Poultry Farm, Hellingly, Sussex, is an example of the value of a thorough training prior to the adoption of poultry-keeping as a business. Training, one should add, is not the only thing necessary to achieve success, since it is a commonplace that natural aptitude must go with it; but training is the only means whereby such aptitude can be turned to the most profitable uses. The son of a civil engineer, Mr. Hunt was born in Birmingham, and, as soon as his school education was completed, decided to go in for farming. With this end in view, he spent some time at an agricul-

deciding ultimately to make a special study of this department, he added to the experience already gained by a lengthy sojourn on a large and prosperous poultry establishment in Kent.

He was therefore fully armed with practical knowledge when he set up for himself on a farm at Catsfield, in Sussex. The success of this venture soon prompted a move to a larger place at Crowhurst, whence—still further space being required owing to the growth of his business—he removed to his present establishment at Hellingly. Brook House Farm consists of between thirty and forty acres, and is stocked with most of the breeds. Orpington fowls, however, and Blue and Buff Orpington ducks are his specialities, whilst he has developed a profitable side line in foods and medicines.

Mr. Hunt has been a poultry-breeder for ten years. He is a member of the English, American, and South African Poultry Clubs, and of most of the specialist clubs in this country. He was largely instrumental in forming the Orpington Duck and Brown Sussex Clubs. Also, he finds time for some few outside hobbies, including photography and amateur theatricals.



Mr. W. HOLMES HUNT.

tural college in Lincolnshire, after which some years were passed on mixed farms in different parts of the country. Throughout this apprenticeship the poultry were always his chief occupation; and,

THREE-WALLED POULTRY-HOUSES.

By EDWARD BROWN, F.L.S.

"Now for as much as no Poultry can be kept either in health or safety abroad, but must of force bee housed, you shall understand that your hen-house would be large and spacious, with somewhat a high roof, the walls strong, both to keep out theeves and vermine. . . . This house should be placed either near some kitchen, Brew-house, or else some Kiln, where it may have air of the fire, and be perfumed with smoak, which to Pullen is delightful and wholesome."—Gervasse Markham, in "Cheape and Good Husbandry," 1660.

WRITTEN more than two hundred and fifty years ago, the statements embodied in the above quotation have influenced poultry-keepers ever since. Warmth, warmth, and yet more warmth, was thought to explain why hens lay better during the milder periods of the year than when atmospheric temperature is lower. Nor is there any blame attachable for the adoption of such a theory, which had much to give it credence. Further, although reaction has taken place against the application, as generally understood, of this idea regardless of other considerations, it would be folly to disclaim it entirely and go to the opposite extreme. What we should attempt is the discovery of the true place of warmth, plus such other influences as may be equally serviceable in attainment of the maximum of success. The main object of applied warmth is to prevent loss of body heat. There is, however, a danger of weakening the physical powers, of reducing the natural vigour, by heat, so that any immediate gain is more than compensated by ultimate loss. Hot-house plants generally grow and reach perfection much more rapidly than those produced in the open, but, lacking power of resistance, they go off quickly, and in many cases are useless for reproductive purposes. I do not suggest that the result of carrying out the system recommended by Gervasse Markham has been altogether evil, but that the same result can be obtained without running the risks involved in this method. In

fact, we should seek to conserve natural heat in the body rather than apply external warmth to it.

At this stage it may be well to sketch briefly the evolution of our present forms of poultry-houses. So far as can be traced, when fowls were first brought into the service of man they found accommodation in trees or such sheds as were available, or in the dwellings of the owners. The manner of life at that time was very primitive, as it is in many countries still. Humans, animals, and birds shared alike, especially at night-time. But with an increase of numbers, and especially as the standard of living was advanced, some other arrangement became necessary. Frequently, as the stock were separately provided for, fowls would be compelled to share the new quarters, or, as home-steads increased, the farm buildings became available and were used by the birds, as can be seen

divided into smaller flocks, the birds could be widely distributed and linked with the cultivation of the land. To secure portability this form of house is necessarily small, in which direction somewhat of its danger lies. The fixed houses which, in modified forms, have become more or less popular of late years are but a variation of an older type, and it is not too much to say that their adoption is for the convenience of the owners and attendants rather than the welfare of the inmates.

It is not my present purpose to deal with the different forms of poultry-houses, or to discuss their merits or demerits. Enough to say that they may be good, bad, or indifferent, in so far as they conform to hygienic principles. Some portable houses are excellent, but the great majority are unsatisfactory in the extreme, simply because they transgress natural laws. The same is true of larger



A RANGE OF OPEN-AIR SCRATCHING-SHEDS.

[Copyright.]

to-day in many countries. At one time only the more advanced, the progressive, who operated upon a larger scale, thought it desirable or necessary to provide special accommodation for the poultry. So far as they were concerned, provision was generally made in one of the farm buildings, and a hen-house is yet a common feature on many of the older farms. Again, this arrangement was satisfactory up to a certain point—that is, so long as the numbers were limited, though the limitation was realised with difficulty and loss. Some of these big hen-roosts, holding three or four hundred birds, all crowded together, and frequently lacking in ventilation and cleanliness, may occasionally be seen, but they are, fortunately, becoming rare. The next stage was, perhaps, most important of all, in that it involved a complete revolution of method. That was the adoption of portable houses, so that,

buildings, though probably to a lesser extent. These latter, however, have their special dangers, not so much in respect of the housing accommodation as the manurial tainting of the land upon which the fowls run. That question need not be considered now. It is enough to mention it, though probably more money has been lost by poultry-keepers from that cause than any other. The most perfectly designed and appointed house will be useless if the adjacent land is poisoned by fowl excreta. The fact that these erections cannot be removed, except at very heavy expense and labour, explains why they have lost favour. They may be “clane and convanient,” but they do not conform to the needs of their inhabitants.

Whilst many features go to make a really good poultry-house, and sanitation will help in avoiding numerous difficulties which would otherwise arise,

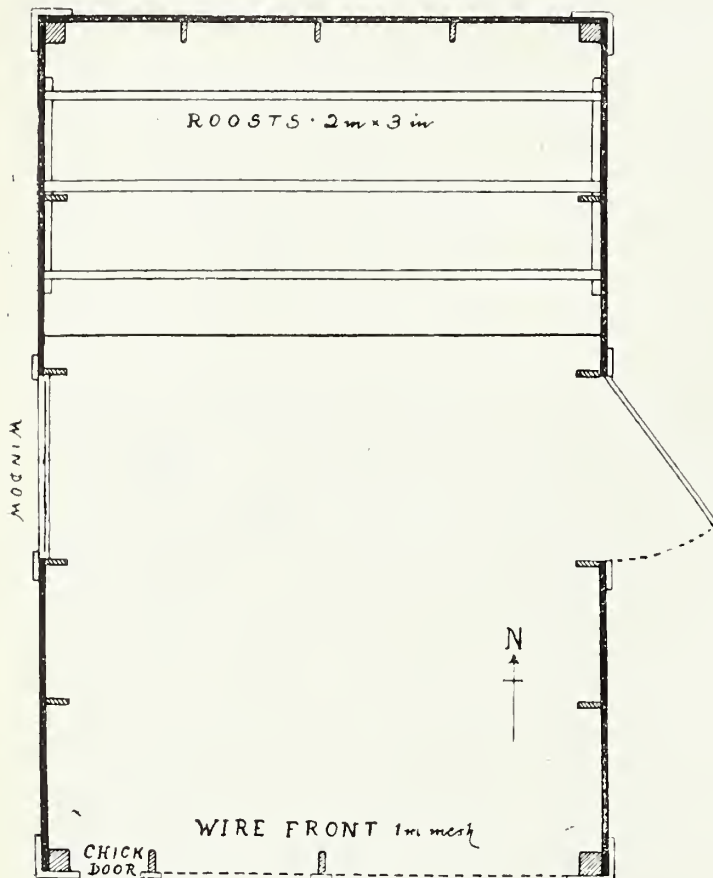
there are two great natural influences which are indispensable to success—namely, a plentiful supply of oxygen and of sunlight. The absence of either or both of these will mean disaster. Substitutes cannot be found. Every dwelling-place must be judged in regard to the degree with which it con-

permitting the body to obtain oxygen, probably the most important element in its nutrition. Upon this point Dr. Edward Smith, in his work on "Foods," says:

The necessity for oxygen as a food is absolute and unintermittent. . . . The body is a great oxidising apparatus, by which it sustains its bulk, produces heat, and modifies the composition of the atmosphere; and when it has cast off that which, having been used, is no longer useful to it, it not only deteriorates the atmosphere, but renders it impure. It is not too general an expression to say that every action within the body is accompanied by the consumption of oxygen and deterioration of the surrounding air.

Which is equally true of birds as of human animals. Recognition of that fact is necessary in dealing with the housing of poultry. So long as fowls are in the open, wandering over the fields or roosting in trees, they can obtain all the oxygen required. But when confined within four walls in which the ventilation is deficient, for ten to sixteen hours out of the twenty-four according to the season of the year, more especially when their numbers are beyond the capacity of the dwelling, what wonder that there is a steady decline in natural vigour. Fanciers and amateur poultry-keepers do not run the same risks in this direction as utility men and farmers by reason of the fact that, as a rule, the flocks are limited, and the *pro rata* cubic air space is abundant. The chief danger is met with where larger numbers are massed together, which must be so in order to ensure the overturn requisite for profit. A valuable experiment conducted at the Wye College some years ago proved that, in a house with free ventilation, it is desirable that there should be nearly ten cubic feet of air space for every fowl kept therein. It is, however, the ventilation which is at fault in the majority of poultry-houses.

Conservation of warmth during the cooler months has evidently been the main idea with poultry-keepers and makers of poultry-houses, who have

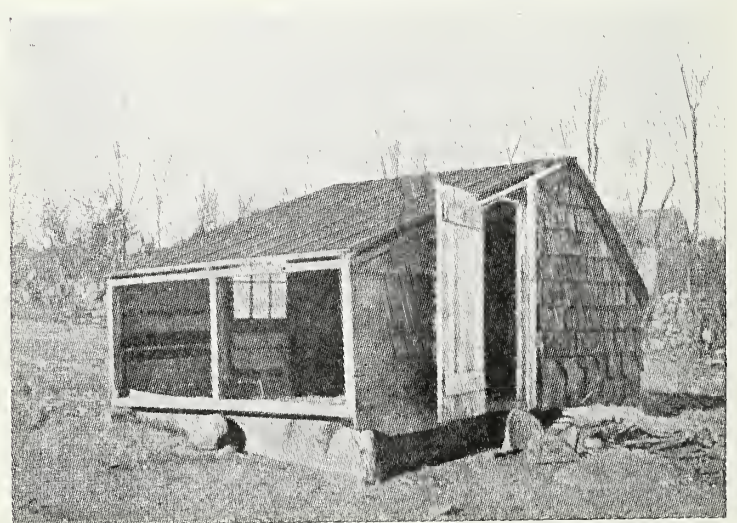


GROUND PLAN, SINGLE TOLMAN HOUSE.

[By courtesy of N.P.O.S.]

forms thereto. The ultimate result from insufficiency of pure air or absence of light may be retarded by special care in other directions, but that only means delay, not prevention, and assuredly as the sun rises, so will the penalty have to be paid to the last degree. The sooner this fact is recognised by everyone, the better will it be for individuals and the industry at large.

The advance of medical science within the last half-century has been marvellous. There has been the abandonment of antiquated ideas, the unloading of cargoes of ignorant practice, in the light of greater knowledge and experience. That there is more to be cast overboard is probably true. Progression means unlearning as well as learning. Forty years ago I was told that re-vaccination meant immunity from small-pox. Three months after undergoing the vaccine ordeal I had the dread disease. Then the specious information was given that I would have the disease less severely. I am not an anti-vaccinationist, but, although a young man at the time, my opinion was formed that there was a pretence of knowledge which did not exist. an assumption of wisdom that had no justification. Nor has that opinion been changed. Yet increase of knowledge has profoundly changed the face of things, and been of vast benefit to the human race. In no direction is that more manifest than in teaching the virtues of fresh air, which means



EXTERIOR OF A TOLMAN HOUSE.

[By courtesy of Reliable Poultry Journal.]

endeavoured to see how little air could be made available, if they ever thought about the question. We cannot but pity the poor inmates, compelled to remain all night in a close atmosphere from which the oxygen was gradually exhausted and

charged with carbonic acid gas, thus producing what is practically a process of starvation so far as one element is concerned. The notion that such conditions conduce to increased egg-production has been exploded. For that work physical vigour and activity are the main essentials. Warmth tends to increase the fatty deposits upon the body, to soften the muscles, to induce lethargy of habit, all of which are repressive to action of the egg organs. I do not mean by this that birds should be exposed to wind and weather, or to extreme cold, for such would be folly, but that warmth obtained by the sacrifice of what is probably the most important part of the food—namely, oxygen, which is

should be applied in all cases. In them the front is made wholly (for preference) or partly of wire netting, and never closed in any way winter or summer, and the birds roost at the back. The result is that there is a free circulation of air without draught. Having to face climatic conditions seldom known to us, American breeders were fearful about the effects upon their fowls, expecting they would be frozen to death, and, therefore, curtain fronts, either to the house itself or immediately in front of the perches, were used, but even these are now being discarded, as they are found needless and useless. A moment's reflection will afford an explanation of what appeared



INDIVIDUAL OPEN-AIR SCRATCHING-SHEDS.

Copyright.

obtainable from fresh, pure air and that alone—does infinitely more harm than good. Sometimes, at first, warmth does increase egg-production, but not for long. Some years ago, in one of the remote and higher districts of Yorkshire, a skilful farmer told me that the hens which roosted in a thickly-branched yew tree laid better during the winter than those in houses. On examination the tree was found to afford perfect shelter from wind and rain, and yet was abundantly ventilated. We cannot all have such trees available, but can apply the lesson in practice by giving fowls as much air as they require. Even in America, where the climate is more extreme than with us, it has been found that winter egg-production depends more upon oxygen, plus vigour of constitution, than anything else. One important point should here be mentioned—namely, that lack of oxygen and exercise means lessened digestive power, and therefore waste of food.

It is for this reason that what are known as open-fronted dwellings for fowls are coming more and more into use. To these the term three-walled poultry-houses may be applied. They vary considerably in size and design, but the same principle

at first a startling phenomenon. When a gale is blowing we go into a shallow doorway, and can light our pipe in comfort. The wind appears to rush past, and does not disturb the atmosphere in which we are standing. But let there be a chink in the door, so that a draught is caused, then it needs a clever man to keep a match alight. These open-fronted houses must be well made, airtight in fact, except so far as the front is concerned, but nothing in the way of double walls or even lining is needed, so long as the timber is good and substantial. Under such conditions the fowls are quite comfortable; in fact, more so than when they are in the ordinary close houses, and it will be found that on the coldest night frost does not reach them, or if it does is without harmful results. Their feathers give all the protection needed. It is damp which brings trouble, and, when combined with low temperature, causes frosted combs, chills, &c., which are practically unknown in open-fronted houses. Whether the poultry have permanent or portable buildings to roost in, whether scratching-sheds or small huts are used, whether kept in yards or on the open fields, let one side, that to the South for preference in winter, and always away from pre-

vailing winds, be open—night and day, winter and summer—and the birds will show their appreciation. In some of the newer forms of poultry-houses half of one side is boarded and half netted, with a sliding shutter. I find many people who use these are so fearful for their fowls that they close them up if the thermometer registers into the thirties F. It would be better to avoid temptation by removing the shutters altogether, for they are harmful. If not there, they could not be used.

Where poultry-houses are fitted with open fronts as before described windows are not required, except in very large buildings, which is a saving in cost. The sun's rays can exert their beneficial influence in purification of the atmosphere to the back of the house. For that reason it is desirable that, wherever possible, the front should be South, South-East, or South-West, either of the two former for preference—that is, North of the Equator, for South of the Line they should be reversed.

REYNARD AND HIS VICTIMS.

THE members of the Joint Committee appointed by the three great poultry societies to consider the Fox question have reported. The following is the statement issued:

The members of the Conference met on Tuesday, February 22, 1910, and after electing Mr. W. A. Jukes (Poultry Club) Chairman, and appointing as Hon. Secretary Mr. L. W. H. Lamaison (Hon. Secretary of the Utility Poultry Club), considered the question before the Conference—viz:

“What steps could be taken to remedy the injury the Poultry Industry suffers annually in this country by preservation of foxes for sporting purposes.”

After considerable discussion the following resolutions were unanimously passed and subsequently sent to the Secretary of the Masters of Foxhounds Association:

(1) “That this Conference consisting of representatives of the Poultry Club, the National Poultry Organisation Society, and the Utility Poultry Club disclaims any hostility to fox-hunting as a national sport.”

(2) “That in the opinion of this Conference it is felt that the time has arrived when, in the interests of poultry-keepers, some steps should be taken with a view to preventing the loss arising from the depredations through foxes and of securing fair compensation where such loss has arisen.”

(3) “That the Masters of Foxhounds Association be invited to appoint representatives to meet the members of this Conference at a further Conference to be mutually arranged.”

A meeting with the Committee of the Masters of Foxhounds Association having been arranged for April 12, the members of the Conference met on the previous day and agreed on the main outline of proposals to be put before the Committee—all questions of detail being left to be subsequently dealt with—and on April 12 the following proposals were submitted at the meeting with the Committee:

(1) That the Hunts be asked to define their boundaries inside which they would entertain claims for compensation, so that residents in those districts would know to whom they had to look for payment.

(2) That small sub-committees be appointed by all Hunts to deal with such claims, and that such sub-committees should be so numerous that there should be practically one in every two or three parishes; and that every Hunt should appoint on its

committee one or more expert poultry-keepers to act as assessors in cases of dispute.

(3) That compensation be based on actual value, and that claims be looked into and settled promptly.

The members of the Committee of the Association expressed themselves to be in sympathy with the object of the Conference, and while willing to do what was within their power to meet the reasonable demands of poultry-keepers, pointed out that they had no power to legislate or control individual hunts. They agreed to send a copy of the resolutions passed by the Conference to every Hunt, and to bring the matter up at the General Meeting of the Association in May. The members of the Conference urged that the present Committee of the Association or some other committee should obtain power to come to some definite arrangement and settlement of the matter with the representatives of the Poultry Societies, and the meeting then adjourned.

The members of the Conference were subsequently invited to meet the Committee again on June 24, and a copy of the following resolution, which was passed at the Annual Meeting of the Association, was received:

“That the members of the Masters of Foxhounds Association present at the General Meeting, held at Tattersall's, on Monday, May 30, 1910, unanimously recommend that fair compensation should be promptly paid for all loss of poultry by foxes, but that the same can only be dealt with by each individual Hunt.”

On June 23 the members of the Conference met to consider the resolution and the attitude to be adopted at the meeting with the Association on the morrow, and it was agreed to await what the Committee had to say as to the steps they proposed to take to give effect to the resolution.

At the meeting on June 24, the Chairman of the Committee, on reading the resolution which had been passed by the Association, intimated that the subject had been thoroughly ventilated at the Annual Meeting, and the views of the Conference and poultry-keepers clearly placed before the members of the Association present at the meeting (about forty), and that though they did not see their way to appoint a committee to discuss the matter further with the representatives of the societies, he was confident that the way the matter had been brought before the various Hunts and the publicity which had been given to the question would have the effect of securing better and fairer compensation for losses. As evidence of this he alluded to the fact that the secretaries of Hunts Association had on their own motion fully considered the question at their annual meeting held on the same day.

In the course of the discussion which followed, the Committee intimated that several, they could not say how many, Hunts had schemes for paying compensations, which they claimed were working well, and that if any Hunt did not observe the spirit of the resolution which had been passed, it would have to bear the consequences, and would not receive any support from the Association; and that if any Hunt could not deal with poultry claims promptly and fairly it must not expect to exist.

It was arranged to send a copy of the resolution passed by the Association to every Hunt.

In view of the outcome of the meeting with the Masters of Foxhounds Association, the members of the Conference recommend:

(1) That the three societies be recommended to continue this or appoint another Joint Committee

to watch over and see how far the Hunts are giving effect to the resolutions passed by the Masters of Foxhounds Association, reporting to the societies in due course; and in the meantime to deal with any questions arising in connection with any claim for compensations.

(2) That all poultry-keepers who suffer losses through the depredation of foxes should make claims at a fair value by the next post or within twenty-four hours, and that where possible the evidence of the loss should be witnessed by some body in the vicinity known to the Hunt.

(3) That any claims not fairly and promptly met be reported to the Hon. Secretary of such Joint Committee.

The first impression conveyed by the resolution passed by the Masters of Foxhounds Association and those of the Joint Committee is that practically nothing has been accomplished, and that the position is pretty much as it was prior to April 12 last. If that were so the situation would be serious indeed, for there can be no doubt that poultry-keepers in some parts of the country are determined to take, and would be fully justified in taking, such measures to protect themselves as would ensure immunity from the losses which have marked the last few years. We think, however, that the case is not so bad as appearances indicate, and that some good has resulted from the labours of the committee.

Nothing could be fairer than the way in which the Joint Committee approached the question, as shown in the first and second resolutions passed on February 22. Whilst disclaiming any hostility to fox hunting as a national sport, they stated that the time had arrived for taking steps to prevent the loss arising from the depredations through foxes and of securing fair compensation where such loss has arisen. What poultry-keepers desire is prevention rather than compensation. However liberal the latter may be, as a rule it can never be equal to the loss when breeding or laying stock is destroyed.

One of the strongest arguments in favour of action is the unfair incidence of compensation. A few Hunts endeavour to be fair all round, so far as the recognised basis of value is concerned. But these are in the minority. In others, either claimants are universally treated with contempt, or only those are paid who are in a position to enforce their claims, because they are independent, whilst others less favourably placed are disregarded altogether. As evidence of this, it was shown that in a few cases payments were as high as 7s. 6d. and 10s. per bird, whilst the poor man to whom it meant bread-and-butter got 2s. or nothing at all. That, it need hardly be stated, is intolerable.

The proposals submitted to the Committee of the Masters of Foxhounds Association on April 12 were such that they ought to have commanded immediate acceptance. Eminently fair to both interests, they asked for bare justice. It may be explained that some of the leading Hunts have committees for settlement of claims, but at present these are constituted by hunters and farmers. The man who suffers has no representation at all, and his side of the case is only partly considered. What is desired, therefore, is to bring other Hunts up to the level of these few, and, in addition, to ensure that on every such committee expert poultry-keepers shall be available as assessors. We understand that this latter proposal was the crux of the problem.

The Masters of Foxhounds realised that indepen-

dent assessors would mean much. But nothing else will reasonably satisfy poultry-keepers.

That the Association at its annual meeting realised the impregnable position held by the Joint Committee, as representing the poultry industry, is unquestionable. The resolution passed on May 30 is one proof, but other signs are apparent. Foxes are vermin and have no legal rights. Hence the concessions agreed to. Let us see what they are:

First: "That *fair compensation* should be promptly paid." The Joint Committee demanded that fair compensation shall mean the fair value. Nothing more, nothing less. Whether a bird is worth 2s., 5s., 10s., or 20s., if killed by a fox, the owner loses to that extent, and his loss should be made good. But to prevent bogus or abnormal claims the Committee suggested expert assessors.

Second: "That fair compensation should be *promptly paid*." To keep claimants waiting for months, as is the way of some Hunts, without knowing whether he will get compensation or not, is frequent. Especially in the case of small poultry-keepers is this of importance.

Third: "That fair compensation should be promptly paid for *all loss* of poultry by foxes." "All" means every bird owned by every one.

It will be seen, therefore, that if this resolution is observed in the sense explained above, a very important gain will result.

The weak point is in the last clause—namely, the claims can only be dealt with "by each individual Hunt." The Masters Association disclaims any power or control over its members, but it is on record that the Committee said "if any Hunt did not observe the spirit of the resolution which had been passed, it would have to bear the consequences, and would not receive any support from the Association."

In view, therefore, of the last statement we are glad to see that the three Societies have agreed to the continuance of the Joint Committee, which ought to be in touch with poultry-keepers and poultry societies all over the country, and thus be able to defend their interests. A difficulty may continue to exist where owners of poultry killed by foxes are afraid to make claims for fear of suffering in other ways. But with such a Committee in existence they need not be afraid. Fox-hunters acknowledge that their sport can only be continued on sufferance, and will not care to risk the outcry, to say nothing more, if any man were penalised for making a just claim, provided they were disposed to do so, which is improbable. Every loser should therefore claim at once. The local police or postmaster will give the name of the Hunt Secretary or Master. And the more *bonâ-fide* claims that can be made, the better. Nothing will so certainly ensure prevention of loss as having to pay adequately for it. We are convinced that nine-tenths of the loss can be prevented if Hunt servants are compelled to do their duty, and the importation of alien foxes into any district is stopped. If a country cannot grow enough foxes it is unsuitable for hunting. Finally, "claims not fairly and promptly met," should at once be reported to the hon. secretary of the Joint Committee.

One final word to poultry-keepers, even those most embittered by heavy losses, is, that an important step has been gained, and time should be given to see the result.

THE INDIAN GAME-FOWL.

IN the United States of America, and, too, in other parts of the New World, it is common to refer to the Indian Game-fowl as the Cornish Indian or the Cornish Game, sometimes even as the Cornish Indian Game—they have a decided preference for long titles over there. One can understand the prefix of Cornish, since for many years the best Indian Game in the world have been bred in Cornwall and Devonshire, and it may have been from the former county that the first exports to America were made. But why "Cornish Game" we cannot say for certain, unless it is that



INDIAN GAME PULLET.

First Palace, Dairy, and Manchester, 1909.
The property of Mr. H. M. de Trafford.

American poultry-breeders still hold that it is the outcome of crossing two well-known Eastern fowls—viz., the Aseel (the true Game-fowl of India) and the Malay (the supposed fighting fowl of the Malay Peninsula).

To trace the origin of the Indian Game as we know it is not an easy matter. Some authorities maintain that it is a pure breed in every sense of the term, and that it hailed originally from the town of Hazanbaugh, in the North-West Provinces of Bengal; others, equally certain, contend that it is the result of mating together the two breeds we

have just mentioned. Nevertheless, no matter what its origin, it is an indisputable fact that the Indian Game, as bred to-day in this country, differs in no small degree from the breed as it was when bred here fifty or sixty years since. Then it somewhat resembled the Malay, and there is not much doubt as to its being closely allied to the Malay family—which is not surprising, since all are Eastern fowls. At present, however, there is a great difference between the two breeds; they have been bred to standards for some years now.

To-day, in the extreme South-West counties of England the Indian Game, together with the Minorca, rank among the farm-yard fowls, in that they are commonly kept on the farm for utility purposes. Maybe the breed suits the requirements in those parts. It is as a table-fowl pure and simple, and with no pretensions to laying qualities, that it is valued off its native heath for utility purposes. As a pure breed the young Indian Game of either sex makes excellent eating; but most poultry-keepers know its table qualities only when blended with other breeds. It is valuable in giving bulk and a good quantity of breast meat to other fowls for the table; it is invaluable for crossing with such varieties as Buff and White Orpingtons or Dorkings, or even with suitable farm-yard fowls.

Considered as an exhibition fowl, it holds a high place. A good specimen is a valuable asset in a fancier's hands, since it is of hardy enough constitution to stand a good round of shows, and, with care, to last for quite a number of years. There is only one recognised variety of the breed; and, strange though it may appear to the uninitiated, it is not classed as a Game-fowl—except, perhaps, in Scotland and at one or two shows in other parts of the British Isles, where those in authority unconsciously or otherwise overlook the ruling of the Indian Game Club and the Poultry Club on the matter. The colour for exhibition specimens may be said to be very dark partridge. Black is the chief colour of the cock, here and there broken with bay or chestnut, while the hen is of a brown ground laced with black.

THE JUBILEE ORPINGTON.

(See *Frontispiece*.)

THE Jubilee Orpington—the Diamond Jubilee, to give this variety its original title, since it was brought out and so named during the sixtieth year of the reign of the late Queen Victoria—is not a fowl which appeals to many poultry-keepers. It can scarcely now be termed a new one, yet it has not much of a vogue, and, indeed, it never enjoyed one. Opinions differ as to why this should be so, but its awkward title was not in its favour. Certainly, of late, this has been fined down to "Jube" in certain circles, those circles in which a Wyandotte is a "Dotte," and a Minorca a "Nork"! But its title does not give one any idea as to its colour and marking, and few would imagine that the colours are black, white, and mahogany, and the marking that which fanciers term spangling.

The Jubilee never had the boom that was given to other members of the breed to set it on its feet; and although it is said to have been bred extensively for years, very few specimens were seen in

Fancy circles prior to 1903. That it is an improvement on the old speckled farmyard fowl indigenous to the county of Sussex cannot be questioned, and it is equally true that there are very few judges of poultry who can distinguish between it and the Speckled Sussex of the present day. It has its good points. It breeds as true to colour and marking as do most exhibition breeds outside the self colours, and good birds of both sexes can be bred from the one mating—it is not necessary to have a special pen for the production of standard marked cockerels and one for pullets.

The most difficult points when breeding the variety for show are colour and marking. The standard demands that the ground colour shall be mahogany—bright mahogany, and not a dark nor maroon shade—and that the spangles be green-black and the tips pure white. Often enough the ground colour of the females is “peppery,” lightly ticked with black, while the white is streaky and not clean enough. The mistake is in demanding equality of the three colours in the hen and on the cock’s breast; the mahogany should be the general colour, and the black and white as small spangles. It is a good utility variety, better for table than eggs, and the cockerels can be grown to good weights at an early age.

AN ISLAND POULTRY FARM.

By A. T. JOHNSON.

THE saner understanding which has, during the past few years, prevailed upon the subject of poultry-farming is one of the most hopeful features in the progress of our rural industries. But the fact that the way to better methods and successful undertakings has been paved with the records of failure is not only true of poultry-farming. It is

the common lot of all industries, the predestined fate of nations. We do not look to-day for “paying poultry-farms” on the old, exploded, impossible notions which ruined so many people fifteen years ago, but we find, instead, establishments where utility poultry have taken their proper place in the economy of agriculture, to which latter the industry is becoming day by day a more important adjunct. In this short article it is proposed to give a brief description of one of these poultry-farms, which, if it is a comparatively small affair, stands as an object-lesson as to what may be done in the industry, provided the principles upon which an undertaking is built are sound.

Far away in the West, just off the coast of Pembroke, there lies in the rolling surf of the Atlantic Ocean the little island of Caldey. It is not more than about a mile and three-quarters in length, and its whole area does not exceed five hundred acres. But the soil is good and the climate mild. Snow seldom falls, and the warm, sandy loam but rarely feels the touch of frost. The island is, therefore, very productive, the pasturage and tillage being good, and from early spring until late autumn the slopes and vales are gay with a profusion of wild flowers, whose luxuriance only those who know the land of the “Warm, Wet, Western Wind” can realise.

Caldey had, for a thousand years up to the time of the Dissolution been a home of the monastic life. It then passed through some centuries of desertion and decay, which bring us down to modern times, when the old order of things was reinstated.

Briefly, it came about in this wise. The Rev. Aelred Carlyle, now Abbot of Caldey, had, from his youth up, been anxious that the Order of St. Benedict should be restored to the Church of England, and some ten or twelve years ago, with that object in view, he appealed to the late Dr. Temple, Archbishop of Canterbury, for his help and sanc-



TOULOUSE GEESE ON CALDEY ISLAND.

[Copyright.]

tion. This was granted, and from 1901 the Community stayed for a year and a half at the old home of the Benedictines, Caldey Island. But they resided there as visitors only, not as permanent residents—much less as owners—after which they went to Painsthorpe, Yorkshire. There they stayed until the autumn of 1906, when, a sum of money being provided for its purchase, Caldey Island became their own property, and to it they at once returned. Nothing further need be said on this point here beyond the fact that, through the assistance of friends and the untiring energy of the Brethren, the old Benedictine Order has re-awakened in the Church and in the time-honoured walls of Caldey, which for so many centuries had slept in the silence of decay.

By no means an unimportant feature of this

chickens, turkeys, &c., proved to be more than double that of any previous year. That is to say, no less than 2,000 chickens, nearly 200 turkeys and geese, and a large number of ducks were sold off the Monastery Farm during 1909, and all these birds were sent to private customers in various parts of the kingdom. Of course, the above output is not great compared with what is done at some establishments, but when it is remembered that most of the birds are first plucked and trussed—in fact, made ready for the cook—then sewn in busses and dispatched by parcel post or rail to their different destinations all over the country, it will be understood that Mr. Longhurst and his helpers have their time well occupied. And it is here, I may point out in passing, that one of the secrets of success at the Monastery Poultry Farm may be



A REARING GROUND, CALDEY ISLAND.

[Copyright.]

Benedictine Community is the manual work which is undertaken by the Brethren as a means of raising the money needful for carrying on their mission—the Monastery being without any endowment whatsoever. And among the varied industries which have been set on foot, poultry-farming is now, perhaps, one of the most successful.

Like most other people who have started poultry-farming for profit, with insufficient time and limited experience, the Brethren, for a year or so, found some difficulty in making a success of their undertaking. Then they secured a manager, in the person of Mr. C. A. Longhurst, who, with his wide knowledge of practical poultry-farming, soon set matters going in the right direction. Beginning in quite a small way—the only available land being limited—Mr. Longhurst, with the help of some of the Brethren, gradually increased his stock and his turnover, so that by last Christmas the sale of

found. The stock is sold first-hand. It goes straight to the consumer, so that the profit which would otherwise go into the hands of a “middle-man” is shared between the consumer and producer.

Although the climate of Caldey is mild, Mr. Longhurst has had to contend against heavy odds in rearing chickens. First of all, his space is restricted, but by exercising particular care and constantly liming the ground (lime being a natural product of the island and burned there, it can be produced at first cost) a thousand chickens have now been successfully reared on the same soil for several consecutive years. As more than that number cannot with safety be attempted, the remainder, together with a large number of turkeys, &c., are purchased in the grown-up state and fattened. Then, apart from the above difficulty, the winds which sweep over the island from the Atlantic are

very detrimental to poultry of all ages. Nevertheless, remarkable results have been achieved, and Mr. Longhurst hopes, with the acquisition of more land, to do still better as time goes on.

As I have already stated, the products of the farm—and here I may mention that bee-keeping and gardening are no small part of the outdoor work undertaken by the Brethren—are sent directly to the consumer by parcel post. The tastes of every individual client are patiently studied even down to the trussing, which is done in any particular style which a customer may desire.

Finally, it may be pointed out that this Monastery Poultry Farm is not, and does not pretend to be, a "model establishment," nor a place from which a big income is derived. It has grown from a very small beginning, but its promoters hope that, year by year, they will be able to record a continued extension. To the outsider it may, as I have already suggested, be cited as an example of what can be done in farming poultry, not as a sole means of making a livelihood, but as a branch of other rural work. It goes to prove that the small-holder, or other dweller in the country, provided he has some capital, a thorough practical knowledge of the work, and sufficient space, can augment his income by poultry-keeping and, by so doing, assist in the general welfare of his native land and fellow-man.

FANCIERS AND FANCY MATTERS.

By WILLIAM W. BROOMHEAD.

The Score Card Again—The Breeding Season—Bantam Notes—August Shows.

THE SCORE CARD AGAIN.

An agitation for the use of the score card has again been started in some of the weeklies. It seems a hopeless task to attempt to convince these cranks that such a system is not one that can be carried out at many shows in this country—if, indeed, at any—unless there is a judge for each breed, or maybe each variety. I understand that it is difficult enough, even under existing conditions, to make both ends meet at the vast majority of poultry shows; and if show executives were called upon to employ half a dozen judges, instead of one, I am afraid it would mean that about 99 per cent. of them would have to "shut up shop." To some people this would be an excellent idea, no doubt; but as long as the Fancy is as strong as it is at present, just so long will there be about 700 shows held in the British Isles each year. Even with the cry of hard times, shows not clearing expenses, and other drawbacks, the shows continue, and if one drops out there is generally another to take its place. But, reverting to judging. Personally, when I am engaged in that capacity, I practically score each bird which in my opinion is worth noticing—there are some that one can see at a glance would not score more than about twenty points! In my judging books I have full notes (good points and defects) of every specimen to which I have awarded a prize or an honour card, and many to which I have not given an award at all. This takes up sufficient time as it is—ask some of the anxious-to-get-the-catalogue-out-by-one-o'clock secretaries of

shows at which I have judged. But if I were called upon to fix up a score card for each bird that came under my judgment, I am afraid it would be a hopeless task, and a drudgery rather than a pleasure.

THE BREEDING SEASON.

A friend in Scotland informs me that, as far as he has been able to ascertain—and he gets about a great deal—the breeding season with the majority beyond the Border has ended in a very satisfactory manner this year, and that some excellent chickens have been hatched. The first chicken show of any importance is the "Highland," which this year opened at Dumfries on the 19th ult., and until then nobody says much of what they have done! The most popular varieties for the shows in Scotland nowadays are Black and Buff Orpingtons, White Wyandottes, and Black Leghorns, while Old English Game-fowls and Game Bantams still have a good following.

BANTAM NOTES.

I hear from Mr. J. F. Entwisle, of The Firs, Calder Grove, near Wakefield, that he has just sold his Indian Game Bantams, including his breeding-pen and the chickens reared from them. The purchaser paid what appears to be a record price for the breed, but he has obtained a choice stud. The cock is a well-known winner, and among his prizes are wins at Hayward's Heath and Penistone, while of the hens one holds the record for her breed, having won a cup for the best fowl at Goole Show, and repeating the performance at Retford Show. The chickens, I understand, are a most promising lot, and some of them are quite ready for exhibition. I also hear that Mr. D. W. Purdon, of Eastholme, Driffeld, Yorks, has hatched about 300



SOME OF MRS. PRIDEAUX'S YOKOHAMAS.

Bantam chickens. Rosecombs are the most numerous, but there are some Frizzles, and a few Spanish. Mr. Pickering, also of Driffeld, has not done as well as usual this year with his Rosecomb Bantams, although the standard of the birds is still up to high-water mark. Yokohama Bantams appear to be advancing steadily; at the show of the Women's Agricultural and Horticultural International Union, held at the Royal Botanic Gardens, Regent's Park, last month, there was a nice display of them in the special class. Mrs. L. C. Prideaux, of Lindfield, Sussex, is a great enthusiast on Yokohamas, large and small, and she penned a nice team at the event. The annual show of the Variety Bantam Club is announced to take place in connection with the Combined Specialist Club Show at Sheffield on December 7 and 8, and the hon.

secretary of the club (Major G. T. Williams, Manor House, Burton Joyce, Notts) asks members to assist the Club Show by guaranteeing classes in which they are interested.

AUGUST SHOWS.

Up to the time of going to press with these notes no less than 110 shows are announced to take place this month, of which about twenty will be held on August Bank Holiday, including the Birkenhead event, which opened on Friday. The most important of the first day events are the Cambridge "Mammoth" Show in aid of the Addenbrooke's Hospital; Holbeach, Lincoln; the Tyneside Agricultural at Hexham; Barnsley, Yorks; and Bude, Cornwall. The Welsh International, with fifty-six classes for poultry, opens at Treorchy on the 2nd inst., and it should prove a successful venture. The first week in August is always crowded with poultry shows, and from the 1st to the 6th there will be about fifty, if all goes well. Among them may be mentioned Worsthorne, near Burnley, on the 2nd; Newport Pagnell and Northampton, on the 3rd; Denbigh, Clonmel, and Keele (this last a big show as a rule), on the 4th; Wolverhampton and Wem, on the 5th; and Perth, Wingate (Durham), Run-corn (Cheshire), and Banks (Southport), on the 6th. There will be five on the 9th inst., including Enniscorthy and Harrogate; six on the 10th, with Lytham, Tipperary, Anglesey County, and Wolsingham, Durham (this last-named probably the oldest show of its kind in the world); four on the 11th, of which one is Kenilworth, with no less than fifteen classes for Wyandottes; six on the 13th; such well-known fixtures as Worsley and Lancaster on the 17th; the Vale of Conway at Llanrwst and the Hallam and Ecclesall at Sheffield among the six on the 18th; eight on the 20th; four, including Sandy, Bedfordshire, and Penistone, Yorks (the great Bantam show), on the 25th; six on the 27th; and five on the 31st, of which the most important are Chester, Bingley (Yorks), and Fleet (Hants).

STANDARDS—TRUE AND FALSE.

To the Editor of the ILLUSTRATED POULTRY RECORD

SIR,—As editor of the fourth edition of the Poultry Club Standards, which has just been published, I must say that in many points I agree with Mr. Edward Brown's article on the above subject in last month's ILLUSTRATED POULTRY RECORD. There is much in the present standards—which, it must be remembered, are similar to those adopted by the various specialist poultry clubs—that leaves room for improvement. At the same time, however, I fail to see how standards for exhibition breeds can be altered to include economic qualities, or, not to put too fine a point on it, how economic qualities can be standardised by external characteristics, and those characteristics given a place in the standards. It may suit the advocate of utility points, and utility points only, to inveigh against the fancier for setting up standards of his own and adhering as closely as possible to the descriptions therein contained; but if these economic qualities are of such vast importance, why do not those poultry-keepers who so strongly advocate them set up their own standards and arrange for shows to be held on such lines? It must not be overlooked that the vast majority of poultry shows in this country—and, indeed, in

America—cater almost solely for exhibition or fancy breeds; and even where two or three classes are put on for utility fowls, it is seldom indeed that the judge of them is other than a fancier. I should very much like to see a show at which classes are given for none other than strictly utility points, to see each breed and variety judged for economic qualities only; but, even with the thousands of poultry-keepers who now have no idea of keeping fowls for their fancy points, it would be a most difficult undertaking to gather them together so that there would be anything like a representative show. How fares it now with the utility classes that have been of recent years put on at the shows? Are they a success? Perhaps it is because the standards whereby they will be judged are lacking. In his quotation from the English standard, Mr. Brown is slightly in error when he says that the size of the Leghorn is given as "medium, rather large to be preferred." In the introduction to the standards which I edited I wrote the following: "For the purpose of correcting an error which has appeared in former editions of the Poultry Club Standards . . . I have omitted the word 'size' . . . Weights are given, but even that is a doubtful goal. The fancier should not breed for mere weight . . . and 'the larger the better, provided that type is fully maintained' is, in my opinion, desirable in most breeds except Bantams." As regards the Leghorn (pp. 72–76) nothing is mentioned as to size; but the following appears: "Carriage.—Very alert and sprightly. Weight.—6lb. to 8lb." for the cock, and 5lb. to 7lb. for the hen. I quite agree with Mr. Brown when he infers that the White Leghorn has been overdone in size. Some of the present-day specimens of this variety are nothing short of monstrosities. They carry bone enough for a White Orpington, and are altogether too coarse for Leghorns.—Yours, &c.,

W. W. BROOMHEAD.

July 15, 1910.

MOULTING OF EXHIBITION POULTRY.

By W. M. ELKINGTON.

THE amount of interest with which fanciers look forward to the moulting season depends upon the variety they keep. To many it means nothing more than the welcome change to new and clean plumage, whilst to some the moult brings the close of a bird's show career, and to others it is the stage which marks the development of better things. All these things may be seen by anyone who keeps Wyandottes. With the White variety the moult brings no more startling change than the discarding of the old and dirty plumage for a new and clean set of the same kind. With the Silver and Gold-laced varieties, more particularly the females, the moult frequently results in the development of serious defects that spoil a bird for the show-pen. Again with the Partridge females the first adult moult generally means the development of imperfect pullet-hood into the glories of perfect hen-hood. That is why the annual change of plumage is such an important event for exhibition breeders, and why it is re-

garded with such varied feelings by fanciers of different varieties.

Just now the moult looms large in importance. Some of the more precocious birds that were induced to make an early start during the warm weather of mid-June are already through and approaching perfect condition, and others that have been designedly held back have yet to cast a feather, whilst the bulk of the stock, that have undergone no special treatment, show that ragged appearance we naturally associate with the time of the year. It is an anxious time for everyone, for, as I have already explained, the moult is, to the fancier, something more than a mere change of plumage. He wants it to be a change for the better, and in any case certainly not a change for the worse. But a good moult depends upon conditions, and to a great extent we are at the mercy of the elements. Moreover, we are inclined to trust a good deal to chance in the matter of moulting show birds, for though scientists have shed a great deal of light upon the subject of moulting as a physical process, I am not aware that they have ever gone into the reasons for the many complexities that puzzle fanciers. For instance, we know that the weather and the season have a great influence upon the date and duration of the moult, but we are by no means certain as to what effect they have upon that mysterious process which produces the markings and colour of feathers on which fanciers lay so much stress. We know, too, that we can assist our fowls very considerably through the trying ordeal of the moult, but we are by no means agreed as to which conditions are most favourable for moulting exhibition feathers, nor are we satisfied as to what foods produce the most satisfactory results.

As I have said, some fanciers are very little concerned with these questions. With self-coloured varieties in particular, and more especially Whites, it is customary to look for a mere repetition of last season's feathers. But with some of the Laced, Pencilled, and Barred varieties, and even with some of the Black and Buff selfs, this is a very pressing matter, and no breeds present more interesting studies in this respect than the females of Laced and Partridge Wyandottes. The problems they present, too, are of opposite character, for whereas the tendency in the Laced varieties is to deteriorate, the Partridges invariably improve, in some cases to such a remarkable extent as to defy any attempt at explanation. Many instances might be mentioned, but as an example I will only quote the case of a Partridge hen which represents the perfection of fine pencilling, and was regarded by many as the best hen out last season, and which in her pullet days, before she indulged in an adult moult, was such a moderate specimen that she could get no higher than fifth in a novice class, and might have been bought for £4. Probably no other variety can show such sensational changes.

But what is the reason for it? Well, in my own unscientific way I can only venture on an explanation by suggesting that pencilling so fine and clear as we now have it in the Partridge Wyandotte is evolved gradually. Watch a chicken from the growth of its first feathers, and you will observe that in the case of fine pencilling the evolution is slow and gradual with each moult. The first feathers will convey some suggestion of what is to come, and possibly the first line of pencilling may

be fairly clear, with the remainder of the feather indistinct. The next lot of feathers will be a little clearer, especially in the first line of pencilling, and again the last chicken moult will produce further improvement and bring other lines of pencilling into prominence, at the same time leaving cause for the remark that "she wants another moult to clear her." Some pullets come entirely barred in the first and even second plumage, and these are invariably less clear after the final chicken moult, lacking the formation of pencilling which, in a good moulted hen, follows the outline of the feather. I do not think the phenomenon has ever appeared to the same extent in the Partridge Cochin, because a coarser type of pencilling has always been in evidence, and even in the Wyandotte the coarser pencilled feathers, bearing no more than two lines of pencilling, are more readily evolved than those with three or four fine, clear lines.

But how can one account for the remarkable changes that occur in the moult, such as the transformation of a moderate pullet into a first-class hen? And what is the wonderful property that causes more remarkable changes in some than in others? Is the quality inherent in the pullet, lying dormant until the adult moult brings it into being, or have the weather, the season, and external conditions any influence in determining the quality of the plumage? I have several times asked this question, and the answer has invariably been that such properties as the colour and markings of feathers must necessarily be inherent, but whether external conditions have any effect on the development of these properties no one cared to express an opinion. But I am very strongly of opinion that they have, and for this reason. Sometimes a bird will be checked during the moult. The growth of new feathers will temporarily cease, and when it commences again, the new feathers will be of a different character to those which grew a few weeks previously. In a Partridge Wyandotte I have known the moult commence with the production of beautiful clear pencilling and end in such an unsatisfactory manner as to render the bird useless for showing, whilst on some occasions the bird has begun badly and improved greatly at the second attempt. Moreover, the colour as well as the pencilling has shown a marked difference, and I have seen in Buff Orpingtons birds that have moulted two distinct shades of colour. This effectually disposes of the fatalistic theory, that, no matter what may happen, the pre-ordained colour and marking are bound to develop. On the other hand, it shows very clearly that moulting depends to a very great extent upon external conditions, since it is obvious that the different feathers produced by a bird that moults in instalments are due to the different conditions experienced.

Here, then, we are faced with a very difficult problem, worthy of scientific consideration. What are the conditions that conduce to the production of ideal colour and markings?—provided, of course, that a bird possesses the inherent ability to reproduce good plumage, for it is by no means contended that a really bad pullet can moult into a good hen merely through the influence of external conditions. The quality, we know, must be inherent. But what are the conditions most favourable to its evolution? Most of us keep our birds shut up during the moulting season. It is essential,

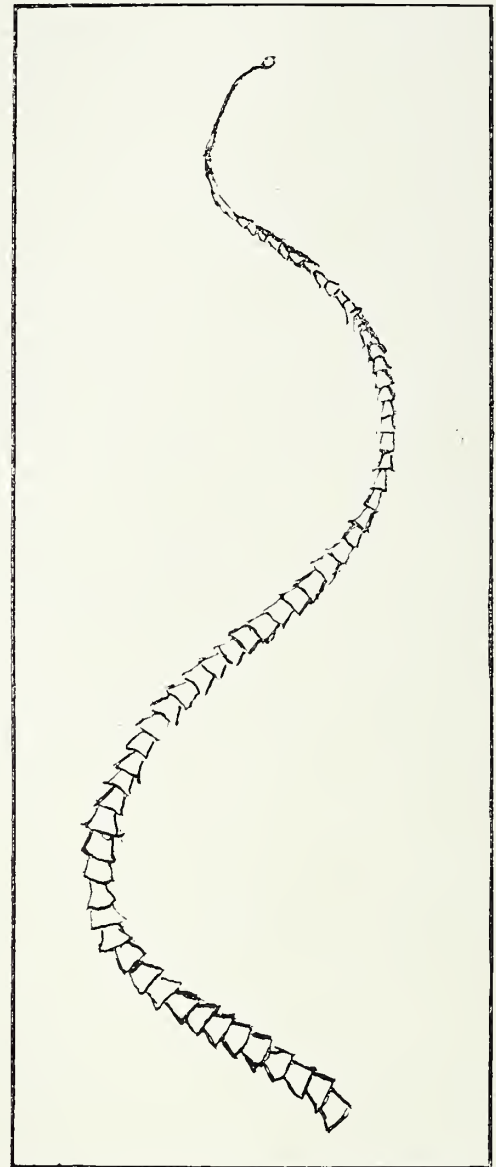
of course, to preserve the new feathers from the effects of sun and rain; but many a time I have noticed that a bird which has commenced to moult, when running out on the fields or in a pen, has shown excellent new feathers, and on a few occasions I have known, these birds, when picked up and shut up in a building, have hung in the moult and finished with less perfect feathers. Such cases suggest, at any rate, that a natural moult is better than a forced or artificial one. Many a time I have shut up a bird in June to moult for a show in August, and I am the more convinced every year that it is better to let the birds take their time and moult when the natural conditions are favourable. Close confinement in warm buildings and reduced rations evidently do not produce the condition essential for good moulting, and a wet, chilly summer is likewise unfavourable, because it has a tendency to lengthen the duration of the moulting period, and in a long drawn-out, gradual moult there is time for changing conditions to produce varied types of feathers. The best hen I ever moulted dropped all her old feathers in a few days, and as the new crop grew, the markings and colour showed perfect regularity from head to tail. Such a moult doubtless entails a more severe strain upon the constitution, but one can cope with that by judicious feeding, and to an exhibitor the point of primary importance is the quality of the feathers produced. Some of the preconceived notions that exist regarding moulting need careful revision. In the case of a forced moult, for instance, the reduction of the food supply is undoubtedly a somewhat risky proceeding, for this reason. Forced moults are generally gradual, or, at any rate, they begin slowly, and the first young feathers are growing before half the old ones have dropped. Consequently, if you continue the reduced rations you seriously weaken the bird and run the risk of getting inferior feathers towards the end of the moult, whereas if you put it on full rations and stimulants you are liable to check the moult altogether. Hens are generally put on to half rations to check laying and induce an early moult, but every poultry-keeper knows very well that some hens continue laying whilst deep in moult, and I have had Partridge Wyandottes that moulted really well and laid regularly whilst the new plumage was developing. To do this, a hen must be in sound, vigorous condition, and evidently that condition is more favourable for moulting than the sadly impaired vitality which we induce by shutting hens up and knocking off half their food. On the other hand, it is true that a soft, fat condition is undesirable, so the happy medium appears to be the hard condition in which we usually find an active laying hen that has had the benefits of an unlimited run and judicious feeding.

A natural moult is undoubtedly preferable, as the birds recover quicker and easier, and so far as I have been able to ascertain, they produce a better quality of plumage. There are, however, seasons, such as that of 1909, when the weather is so unfavourable that artificial means often have to be resorted to to induce birds to moult before the cold weather of autumn sets in. A warm August is therefore particularly valuable in helping fanciers to get their stock started naturally into moult, for with such a commencement it is generally possible to get the process completed with comparative ease and in reasonable time.

PARASITIC DISEASES.

By HAROLD LEENEY, M.R.C.V.S.

LIVE stock breeders in general are still far from realising the importance of parasitology in its bearing upon the health and wealth of the nation, and if this remark is true of horse and cattle breeders it is unfortunately the case also with regard to poultrymen. Whether one keeps a few fowls in a back-yard, or runs a poultry-farm, it



LIFE-SIZE DRAWING OF WORM TAKEN FROM
A PULLET. [Copyright.]

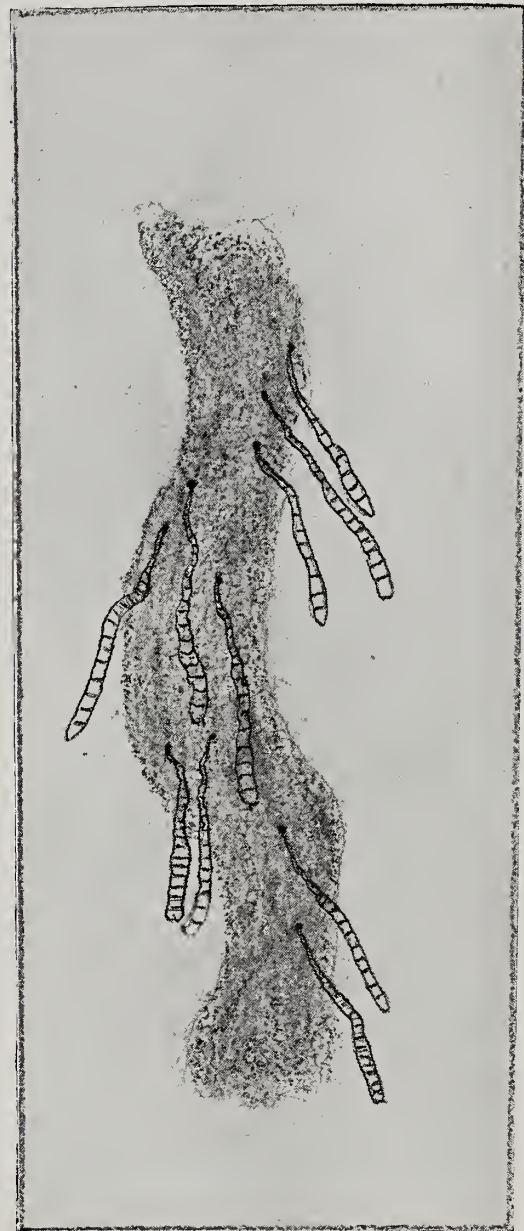
is not long before acquaintance is made with some of the ectozoa which temporarily transfer themselves to the human skin, and the numerous class of persons who now take to the rearing of birds as a serious business worthy of the highest intelligence make a more or less successful, if somewhat intermittent, fight against the visible parasites whose playground and larder are shaded by feathers. The flea and the louse are too literally brought home to "our business and bosoms" to leave us in ignorance of their numbers, but of the internal parasites which minimise our profits we find the

majority of men quite ignorant, or, if they have heard of any worms but those which give rise to gapes, have not seen them or suspected their presence. How many readers have suspected tapeworms of four or five inches in length in their stock? Yet such worms are comparatively common, and are frequently the cause of wasting or "going light" (asthenia). We do not wish to imply by the latter remark that there does not exist a mysterious disease of fowls which causes wasting to a skeleton, without any post-mortem lesions, but that many subjects sent us for post-mortem examination prove to be wasted by internal robbers in the shape of tapeworms.

Why is it that poultry-keepers do not discover the presence of worms? There is an easy explanation in the fact that infested birds very rarely pass the worms, as dogs do. If so voided, they are not likely to be seen in grass, or in the dust run of the town keeper of fowls. Another rather unpleasant-looking fact is the quickness with which a fowl will pick up a worm voided by another; or by itself, for that matter. Fowls will eat their own flesh when a wound worries them, and the writer has seen many capons swallow the organs which he has just removed from them. The dog is irritated by the tapeworm he has partly voided, and his conduct in sitting down and drawing his perineum along the floor attracts the owner's attention. No sign is given by the feathered sufferer until the host fails to respond to generous rations. A very badly infested hen will fall off laying, and birds put up to fat will not make a good return for the food supplied, but it is not so much in these classes that parasitic infestation occurs. With birds (gallinaceous and other) it is the young which are chiefly attacked. The farmer and stockbreeder and the flockmaster know this only too well in respect of quadrupeds of all the domesticated varieties. The pig, the lamb, the calf, the foal, the young bird, even the young fish in the sea and the river, are preferred to the adult, and in so many species, parasites are transferable, or have a cycle of lives (three in the case of tapeworms) one of which is passed in a different sort of creature altogether. Many of the teniæ have a preference for a particular species, both as intermediate bearers and ultimate hosts, and it is found that where rabbits are much infested, both lambs and birds suffer.

To appreciate the risk of infestation, we have only to refer to the fact that a ripe segment of tapeworm will contain about 30,000 ova, and from scores of such segments in a single individual millions of eggs will be passed. Some of these pass the middle life or cystic stage in soft molluscs such as fowls as well as ducks are known to devour; then they are in a fair way to becoming the ultimate hosts of the worm. If they swallow the eggs instead of the cysts within a slug, they have cysts form within themselves, and awaiting the demise of the bird for a final host in which to mature as a tapeworm. Flies also act as intermediary bearers; quite one of the commonest tapeworms of the dog passes its middle period in the flea and the louse, and if dogs, biting themselves, convey the cysts to their intestines, well may birds do the same, since they seek to swallow insects while dogs and cats do so accidentally only. The flat, sole-shaped worms known as flukes, which are found in the livers of fowls as well as quad-

rupeds, pass several periods outside the ultimate host, and in any of these may be picked up by birds—are picked up, we should say, as we find them in all sorts of wild birds as well as domesticated fowls. The eggs of tapeworm and the cysts they form are distributed over land and water, and in the fish brought to bank by both the freshwater and sea angler may be very frequently found either as bladders adhering to the viscera or as worms within the alimentary canal. The infestation of fish would be outside the present article but for the need of impressing upon the poultryman the universality of



PORTION OF BOWEL. [Copyright.
Inner surface exposed showing tapeworms' heads buried in
mucous lining.

parasites and the need of unceasing warfare against creatures taking up so many different homes. The cat or the fowl with access to the viscera of hares, rabbits, and fish may get tapeworm from such sources, and the dog and cat may in turn be infested by throwing the intestines of the fowl to the dog and cat. Of the 130 odd species of tapeworm a large number of them have been clearly traced through the various bearers or "nurses," to the

ultimate hosts, and it may be safely assumed that all have a similar cycle of life, or lives. The flukes, too, have a life history which helminthologists have made clear to us, but many of the round worms, ascarides and strongyles, have not been so traced. It used to be supposed that the gape-worm (*Syngamus trachealis*) and the husk worm of cattle, which play a similar part in calves and lambs, must always pass out upon the ground before infesting another animal, but the gapeworm has since been proved to breed within the bird as well as outside, and we have seen adult cows with bundles or nests of these husk worms which must have been retained since calfhood.

Not only is it necessary, then, to destroy parasites in the field, but to retain no bird or beast in the flock that will remain a focus of infection. Many ducks which fail to fatten quickly and are, therefore, unprofitable if merely table-birds have become infested with worms which resemble a number of thorns protruding into the alimentary canal, while firmly adhering to its sides. These and many other varieties make punctures and corresponding areas of inflammation in the intestine, and a proportionate loss of digestive and assimilative power on the part of the host, and when numerous, so rob the bearer that he wastes away for want of food he has had the labour to gather.

The tapeworm, the ascaris, the strongyle, and the molluscs which act as intermediary bearers, are all killed by salt. Fluke has no hold in the salt marshes, and that is why infested sheep are sent to them to graze. A one-per-cent. solution is enough to kill the bearers, and probably the larval stages of ascarides and strongyles. Soot and lime are also valuable dressings for land where parasites dwell. All the recognised disinfectants are fatal to the worms at all stages if they can but be brought into actual contact: but here is the difficulty. The dung of affected birds should either be burned or placed in a very hot mixen; or layers of lime and soot spread over it. This precaution applies also to those invisible organisms causing "blackhead" in turkeys, and many other diseases. The utmost cleanliness in houses and runs and the turning over of land and burning of nests are advisable.

Destruction or expulsion of worms is not difficult except as regards those parasites which, like the fluke, find their home in the liver or other organs out of reach of drugs given by the mouth. Areca nut, pomegranate, oil of male fern, spirit of turpentine, kamala: these and other vermifuges may be given in doses suited to the size and age of the bird. Of the dry drugs mentioned, two grains to each estimated pound weight of the subject: and of the liquids two drops. The latter are best given in equal quantities of olive oil. Needless to say, the patient should be put in a hutch by himself and with a clean swept bottom, so that results may be seen. The worms must be burned. Space has run out. One wants a whole POULTRY RECORD to half-describe the worms of poultry, and I will conclude by urging flock-owners always to separate a bird that is the least "off colour," and never hesitate to sacrifice one for examination. This is true economy. To look for worms, draw out the whole intestine (the union is very easily broken) and slit up the bowel with a sharp-pointed knife. If this is done under water, with a little "Condy," it is no very offensive job, and then the desired information will probably be obtained.

POULTRY TOPICS OF SIXTY YEARS AGO.

ONE of the earliest serial publications to devote attention to poultry-keeping was the *Gardeners' Chronicle*, in which the articles by the Rev. E. S. Dixon, M.A., appeared. These were afterwards republished in his well-known work "Ornamental and Domestic Poultry," the first edition of which was issued in 1848. We have recently been dipping into another horticultural journal, the *Cottage Gardener*, in which we find the editor saying in reply to a correspondent (April 19, 1849):

We shall make arrangements for a series of Essays on Domestic Poultry, so soon as we can meet with anyone to be relied upon who practically understands their management.

Evidently poultry writers were not as plentiful in those days as they are now. The sting was in the latter half of the sentence. Reliability and knowledge apparently did not run together. Throughout the same volume (II.) the editor seems not to have found the Admirable Crichton, and was struggling to help his readers in spite of his own lack of knowledge, for "Rusticus" was in trouble, and this is what he is told (July 19, 1849, p. 204):

Your chickens moping about by themselves with drooping wings and half-closed eyes are probably affected with *the chip* or *cheep*, a name applied on account of the weak, plaintive cry resembling the monosyllable which they utter. Allowing them to go out from the coop before they are a month old is said to be the cause, so that they get worms, &c., not wholesome for them. Remove them into a warm, dry, airy place. Thick gruel, one pint mixed with a teaspoonful of castor oil and half a teaspoonful of syrup of ginger, is said to be a good mixture for chickens thus diseased, giving to each a teaspoonful daily. Crushed fresh oat grits is the best food for them, and the water they have to drink should be warm.

One hardly knows whom to pity most, the editor, the owner, or the chickens. A little later (August 16, 1849, p. 259) we find "J. H. S." thus answered:

To induce hens to lay in the winter give them each daily about half an ounce of raw meat chopped fine; and a few handfuls of sunflower seed are additionally influential. Do not let the cock company with the hens, but keep him shut up, and do not allow any nest eggs to remain in the nests.

A fortnight later (August 30, 1849, p. 289) other stars appear in the *Cottage Gardener* firmament, for "C. M. A." writes:

At this season I dare say most of the *Cottage Gardener's* readers have peas; if so, save the shells, and after the peas are boiled put them back into the same water, and let them boil whilst you are dining, then cut them into little bits, and mix them with crumbs from your plates, and your poultry will live well on it.

Here is something practical, in spite of the mode of expression, for the pea-pods are meant, not the peas themselves.

Better times are, however, at hand, for the

desired writer soon makes his appearance, in the person of "Martin Doyle," which, as mentioned in the "Bibliography of Poultry" (April, 1910), was the pseudonym of William Hickay, whose "Illustrated Book of Domestic Poultry" was published in 1854. On October 25, 1849, he commenced what was called "The Poultry-Keeper's Calendar." He had the courage of his opinions, as the following quotation from his first contribution will show (pp. 50-51, Vol. III.):

Since grossly heavy poultry is in marked demand, the cottager's family will find it beneficial, at this time of year, to cram fowls. For this detestable purpose a mixture of meal, milk, and fat of any kind is necessary. In the course of three weeks chickens may be rendered very fat, and from a month to six weeks' regular cramming is sufficient to render any fowl *beastly* fat. Seclusion from light and society aid the progress of fattening by causing continued lethargy.

The term "*beastly* fat" is expressive, if inelegant.

But the editor has not resigned his duties to "Martin Doyle," for in a paragraph dealing with "Natural Phenomena Indicative of Weather," we find (Vol. III., p. 71, November 8, 1849):

Chickens being more than usually noisy, flapping their wings frequently, and busking in the dusk, indicate a change from fine to wet weather. This may be readily accounted for by our knowledge of the fact that all such changes are accompanied by an alteration in the electrical state of the air, and a consequent change of irritation of the animal's skin. If the poultry go to roost unusually early, and if the cocks crow at uncus-tomary hours, it similarly indicates approaching wet weather.

Why do not breeders advertise hen barometers?

Some fowls were tipplers sixty years ago, encouraged thereto, though nothing is said as to whether they ever got "groggy" with the liquor. "V. V.," writing in the issue of December 13, 1849 (Vol. III., p. 147), says:

We are in the habit, in winter and in wet weather of considering all bottoms of bottles, lees of port wine, of elderberry, and of all home-made wines, odd heel-taps of porter, ale or spirit, as the perquisites of the poultry. These should never be thrown away; and, most happily, our butler does not object to these views. About a quarter of a pint of this stimulating compound, diluted with water, may be occasionally mixed with the food of a dozen hens.

The question is whether, to keep going such a flock as that at St. Mary Cray or Northallerton, an ordinary establishment could drink enough.

From this time onwards contributions increase, the subject becomes of greater importance, and we are brought into the 'fifties, with the Cochin mania, the rise of poultry exhibitions, and the rapidly-growing interest in poultry and poultry-breeding. Our last cull is taken from "Martin Doyle" (Vol. III., p. 239, January 31, 1850), in which he quotes:

It is a crime in man or woman,
To steal a goose from off a common;
Then sure the man's without excuse
Who steals the common from the goose.

We could continue at length with these interesting revelations of past days, but must forbear for the present.

THE POULTRY-KEEPER'S OTHER INTERESTS.

By "HOME COUNTIES."

Author of "The Townsman's Farm," "Poultry Farming: Some Facts and Some Conclusions," "The Case for the Goat," "Country Cottages," &c.

"Poultry should be only one part of the stock."

—The Secretary of the N.P.O.S. in the "Cyclopædia of Modern Agriculture."

£150 COTTAGES—

I had the pleasure of a chat the other day with Mr. St. Loe Strachey, editor and proprietor of the *Spectator*, who was the originator of the Cheap Cottages Exhibition, and has just built what so many clever people have declared to be impossible, a pair of cottages at £150 apiece. The accompanying photograph shows what they look like. The accommodation furnished by a single cottage is, of course, too small for any of my readers, but the total accommodation provided by the pair might very well meet the requirements of not a few people. The interior of the block could very easily be adapted to suit a single resident. I am concerned now with the total amount of work obtained for £300. It was, of course, a point of honour with Mr. Strachey to be able to build for £150 a cottage. After all that has been written on the subject, it would never have done had he spent any more.

AND HOW THEY WERE BUILT.

He has succeeded in getting these two cottages inexpensively built because he has done what so many builders of cottages will not do, put some thinking into them on his own account. He got hold of an intelligent builder, in whom he had confidence, told him that he wanted two five-roomed cottages, and that £300 would be paid out on the two and not a halfpenny more. The man, having been plainly and squarely dealt with, put his back into the job, and seems to have acquitted himself with considerable credit. There does not seem to have been any architect in the work, Mr. Strachey and the builder doing all their own plans. This was the easier because they had a firm grasp of the principle so necessary in cheap building, that the ornamental is as unnecessary as it is out of place. There will be criticisms of their cottages, but the constructors are surely entitled to praise for having, like good engineers, tackled a simple job in a simple way.

AN EXPERIMENT IN CONCRETE.

The chief feature of the cottages is that they are built out of concrete blocks made with a simple contrivance devised by the builder himself. The blocks are hollow, which makes them lighter and more easily handled. The walls are also practically hollow. The gravel and sand had to be hauled to the site, and as it was rather high up, this was rather an expensive item. Obviously many an owner who had a site which contained gravel or sand would enjoy a financial advantage. The blocks were seasoned for about a month before use, and were made, of course, by unskilled labour. In the scullery the blocks were left rough, but in the living rooms were plastered over.

£300 WORTH.

It is a merit in the cottages that the chimney is in the centre. The whole heat of the fires is obtained. Downstairs the accommodation in each cottage is a kitchen-sitting-room 15ft. by 16ft., out of which the staircase rises without being boxed in, a scullery a little more than 8ft. across, pantry and larder, coal and wood store, and c.c. The bedrooms are 16ft. 10in. by 8ft., 14ft. by 8ft. 2in., and 10ft. 6in. by 8ft. 2in. I give these measurements merely to show the amount of space available, for if the block were built by a poultry-farmer he would not need to have such small bedrooms. The builder apportioned his £300 as follows—the figures give a fair idea as to how the money goes in building a cottage:

APPROXIMATE DETAILED NET COST OF EACH PART OF THE WORK.

	£	s.	d.
Making plans and setting out cottage	2	10	8
Digging gravel and sand, and haulage to site	16	2	0
Making the concrete blocks, including cement	65	15	2
Digging footings, building walls, including cement	39	17	3
Making doors and windows, including timber and fittings	55	7	1
Framing joists and floors, partitions and roof, including timber	52	15	5
Tiles for roof and lead for gutter and fixing do.	23	6	1
Making and fixing stairs and linings and shelves, including materials	13	19	7
Lathing and plastering, including materials	31	11	9
E.C. fittings, sinks, coppers, cooking stoves, grates, eaves-guttering and pipes, and staining and varnishing	13	2	5½
Builder's profit, to cover use of tackle	5	12	6½
	£300	0	0

has done; but add £50 to the £300, and the cost still stands at a moderate figure. Indeed, an experienced architect and landowner who has made some criticisms of Mr. Strachey's pair of cottages says he can build pairs which are open to none of the objections he sets out (particularly in regard to the size of the bedrooms, the copper being indoors, &c.) at £350. I may mention that I have recently seen a cottage with five rooms in brick, for which the owner told me he had paid the builder £150 only three years ago. The thing to do in order to ensure cheap building is to look out for the cheapest materials in the neighbourhood and to use them. Also to impress upon the builder that it is really important to economise, and that the plan can be altered to any reasonable degree where substantial savings can be made. A decent builder is as willing to save his customer money as if he were building a house for himself, and is quite as willing to build with due economy as expensively, but he does not often get much encouragement. The economies in building are made by using timber in such a way that it does not cut to waste, and by avoiding unusual methods of contriving things. It is when it is insisted that work shall be done in a particular way that the cost mounts up. Note that Mr. Strachey tarred his outside woodwork. Note also the effect obtained by having windows not over the top of one another. The mansard roofing is, of course, an economy, not an æsthetic extra. Needless to say



TWO £150 COTTAGES BUILT BY THE PROPRIETOR OF "THE SPECTATOR."

(Copyright.)

It will be observed that there is no ostensible profit worth the name for the builder. I assume he was a small builder, and got his profits under the various items.

ECONOMICAL METHODS.

I don't suppose that many people who are not landowners would be able to do as Mr. Strachey

that the man who goes into building with a good conceit of himself and a builder he knows nothing about is likely to spend a good deal of money without obtaining a particularly satisfactory cottage. If you propose to build without the assistance of an architect, it is well to be sure of exactly how much you do know, and to be able to trust your builder.

NOTES FROM ABROAD.

Progress in the Pretoria District.

At the opening of the eighth annual show of the Pretoria Poultry Club in June, which was a decided success, Mr. E. B. Smith, Director of the Transvaal Department of Agriculture, said that he was pleased to hear that poultry-keeping in the Pretoria district was progressing to such an extent that the Pretoria district alone could very well hold a very creditable show on its own account. That spoke a great deal for those in Pretoria who had taken such an interest in poultry-keeping. In fact, he thought they might congratulate themselves on the progress which poultry-keeping had made in the country generally. There was still a vast deal to be done, but they were glad to think that the position had so greatly improved. He hoped before long to see established societies for the collection, distribution, and sale of eggs and for the marketing of table-poultry, &c. There was something wrong when they could not go into a shop and buy a bird ready for the table, well fattened and trussed, and he hoped that such a condition of things would not be allowed to continue.

Eastern Canada.

A special correspondent of the *Times*, writing from Toronto, makes some striking statements as to the Eastern Provinces of Canada, as a result of farmers and others migrating thence to the West. He says that "for the last ten years the rural population of Ontario shows an annual decrease, varying from 4,000 to 14,000," that "since 1897 the price of eggs has advanced 122 per cent.," that "in Ontario we have less poultry than we have had during the last three years," and that "last year one Western firm gave orders for forty carloads of poultry for British Columbia and the Prairie Provinces. Recently a dealer from British Columbia purchased twenty-three carloads of eggs in Ontario." If this goes on, we shall have Europe exporting eggs and poultry to America.

South Australian Poultry Conference.

Exchanges report that the Conference held at Adelaide in April was most successful. Apart from the benefit to those attending such gatherings, the reports of proceedings in the Press exert a vast influence.

Table-Poultry in Canada.

One of the great firms of egg merchants, Messrs. Gunn, Langlois, and Co., of Montreal, has entered into the poultry business, and declares its intention of giving that encouragement to the production of high-class fowls which acts as a powerful stimulus to breeders and feeders.

Big Figures.

From an address given at the last Poultry Institute at Guelph, Canada, by Mr. P. White, we cull the following:

In Chicago last year there were several hundred thousand turkeys taken to that city and sold and consumed, to the value of one million dollars. In

addition to that the poultry consumed in Chicago at Thanksgiving, Christmas, and New Year would take a train seven miles long to carry them. Twenty-five thousand turkeys have been handled in Chicago in a single day. Take another great American city, New York. There are two thousand carloads of dressed poultry used in New York in a year, and that means one train of twenty cars taken into New York every three days. There are nine thousand carloads of eggs taken into New York every year.

Alternate Males.

Mr. M. K. Boyer, writing in the *American Poultry Advocate*, states that he has found that the use of two male birds to each flock of hens, using each on alternate weeks, has greatly raised the fertility of eggs, and that trap-nesting has proved, where only one male is employed, that there are favourites and otherwise. He heads his article by saying "Phenomenal layers, like trained athletes, will sooner or later meet their Waterloo."

South Australian Laying Competition.

The official report of the Twelve Months' Competition, which ended upon March 31, is to hand. Again a remarkable success has been achieved. One hundred and thirteen pens competed with six hens in each, so that 678 birds were engaged in the competition. The summary of results is as follows: Total number of eggs laid, 126,133; average per pen, 1,116.18; average per hen, 186.03; highest score, 1,531, or an average of 255; average price of eggs, 11.54d. per dozen; total value of eggs laid, £470 12s. 5.7d.; total cost of food, £187 0s. 8½d.; total profit over feeding, £283 11s. 9.25d.; cost of food per pen, £1 13s. 1.14d.; cost of food per hen, 5s. 6.19d.; profit per pen over food cost, £2 10s. 2.3d.; profit per hen over food cost, 8s. 4.2d. The competition was divided into two sections: I., White Leghorns; II., Other Breeds. In the first-named, 65 pens, or 390 birds, were entered. These produced 77,523 eggs, an average per pen of 1,192.67, or per hen of 198.7, which is a wonderful result. Only four pens were below 1,000 eggs, and the lowest was 755. The first lot produced 1,531, an average of 255, and the market value was £5 17s. 1.78d. In Section II. the highest average was secured by Black Orpingtons with a total of 1,190, or an average of 198.33, and a total value of £4 17s. 7.31d. In respect to size of egg, only ten of the White Leghorns were below the 2oz. average, but in Section II. 19 pens fell below that standard. Specially instructive are the breed averages:

Breeds.	No. of Hens.	Average per Hen.
White Leghorns	390	198.7
Silver Wyandottes	30	183.2
Plymouth Rocks	6	178.1
Black Orpingtons	114	175.8
Langshans	12	175.5
Single-Comb Brown Leghorns	18	167.3
Anconas	6	166.6
Rose-Comb Brown Leghorns	12	165.5
Buff Orpingtons	24	164.2
Black Leghorns	6	160.6
Andalusians	6	160.1
Minorcas	12	159.5
White Wyandottes	24	157.3
White Orpingtons	12	131.8

It is, indeed, a triumph for the White Leghorn, and upon the total result the managers may be heartily congratulated.

Poultry-Keeping in Apple Orchards.

The combination of fruit culture with poultry-keeping is often recommended, and it is surprising that more is not done in this way. The *Melbourne Weekly Times* tells of a successful enterprise at Pakenham, Victoria, conducted by the Toomac Valley Orchard Company, where on an apple farm of 230 acres poultry are made a leading feature. Upwards of 2,000 fowls are kept, which have a splendid run in the orchards. The flock of layers numbered 700, and last year averaged 168 eggs per hen.

American Poultry Association.

As anticipated, St. Louis, Mo., has been selected for the venue of the Annual Meetings, which will be held August 9 to 11. The election results for officers are as follow: President, Mr. C. M. Bryant; Vice-Presidents, Mr. L. H. Baldwin and Mr. C. K. Graham; Secretary, Mr. S. T. Campbell; Members of Executive Board, Messrs. U. R. Fisbel, T. E. Quisenberry, and G. M. Curtis.

A Million Hens.

Petaluma, in California, is a great poultry centre, and is said to have a million hens, the annual output of which is 120,000,000 eggs. Seventy-five per cent. of the inhabitants are poultry-keepers.

A FRENCH POULTRY FARM.

M. RENÉ CAUCURTE, "ÉLEVAGE DU MOULIN DE LA MADELEINE" À SAMOIS-SUR-SEINE, SEINE ET MARNE.

By LOUIS JACOT.

IT has long been my wish to place before the readers of the ILLUSTRATED POULTRY RECORD a description, with photos, of a few of the most interesting French poultry farms, and I desire to thank Mr. Brown for his courtesy in allowing me space in the Foreign Notes. As I happen to be staying for a short time on the banks of the Seine, a few hundred yards from the pretty village of Samois, on the borders of the forest of Fontainebleau (well known to English tourists), I take this opportunity of describing M. René Caucurte's farm, Le Moulin de la Madeleine, which is situated at the corner of the Pont de Valvins, on the road from Fontainebleau to Provins and one mile from Fontainebleau Station.

The farm and homestead are divided by the Seine; on the left bank are the house and buildings of the old mill, where, thanks to an abundant supply of running water, the Rouen Ducks, Toulouse and Egyptian Geese (as yet undefeated in any show) are living under the most favourable conditions. The Rouen Ducks, which are among the finest specimens ever bred, brought M. Caucurte a first at Lille, 1909; a first and special at La Société Nationale des Aviculteurs de France,

1909; and a first and second at the Concours Général, 1909 and 1910.

Crossing the river, we find ourselves on the farm, which gives one the impression of a pretty little Normandy village. On our right are the Gâtinaises pens, an entirely French breed, but little known to English breeders. M. Caucurte is founder and secretary of the French Gâtinais Club, and for many years he has laboured energetically to restore this fine race, about which I will say a few words. The Gâtinaise is one of the oldest of French breeds, but with the introduction a few years ago of the Asiatic breeds of Brahma and Cochin and the craze for cross-breeds, the pure French breed almost disappeared. M. Caucurte, with the help of a few colleagues, founded the Gâtinais Club with the object of preserving the old type of Gâtinais hen which possesses all the qualities of the useful and practical bird. The Gâtinais cock and hen are heavy birds, the plumage a pure white, the legs a rose-colour. They have four toes, both legs and toes being entirely free from feathers. Large numbers find their way to the Central Market in Paris, and their exportation to England is immense. One must not confound them with the White



ROUEN DUCKS AND TOULOUSE GEESSE ON
M. CAUCURTE'S FARM. [Copyright.]

Speckled hen, procurable in the Bourbonnais district, which goes under the name of the "Race du Bourbonnais" and closely resembles the Light Sussex.

Besides the Gâtinaises, M. Caucurte has many pens of White and Golden Phénix, also Silver Nagasaki, which took a first at the Show des Aviculteurs Français. I should like to add that besides his poultry he has a model rabbit-house, containing about 180 animals of eight different

breeds. This is probably unique of its kind in comfort and elegance. Very long and broad, one side of the building can be utilised as a brooding-house for rearing chickens during the winter.

We come now to two smart buildings situated at the end of the grounds, surrounded by enclosed pasture and facing the Seine. It is there that M. Caucurte has installed his goats—the most unique herd in Europe, which is under the care of three Swiss goat-keepers. The instalment is entirely up to date and comfortable, and, in spite of many difficulties in the beginning, M. Caucurte has by dint of unflagging energy contrived to establish a goat farm unrivalled throughout the whole world, of which he is justly proud! At the present time he owns over a hundred goats of pure breed. They are the following: "Murcie" (Spain), "des Alpes" (Switzerland), "Nedged" (Arabia), de "Nubie" and de "Syrie" (Mambrine). At the International Show in Brussels, which took place from June 11 to 20, M. Caucurte carried off the four first prizes in the four classes. It may be added that M. Caucurte is Chevalier du Mérite Agricole, a member du Conseil d'Administration de la Société Nationale d'Acclimatation de France, member de la Société Nationale d'Aviculture de France, and Secretary du Gâtinais Club Français.

May I suggest that, if any readers of the ILLUSTRATED POULTRY RECORD have occasion to visit Fontainebleau, they should avail themselves of the opportunity of inspecting the Moulin de la Madeleine farm. I can assure them of a hearty welcome, and am convinced that they will not regret their visit.

ARGENTINA.

ARGENTINA. By W. A. Hirst. With an Introduction by Martin Hume, M.A. T. Fisher Unwin.

THIS volume of the "South American" series, deals with a country upon which some definite information was badly wanted. Since it became a Spanish colony in the sixteenth century the British people have taken a large part in its industrial development, more especially since the revolution of 1825, when it passed out of the hands of Spain and established itself as a federal republic. But the increase of British settlers among its population has not been accompanied by a corresponding increase of knowledge, as to its development and future possibilities, at home. To the average man in the street Argentina is a land containing one or two considerable towns like Buenos Aires, Rosario, and Santa Fé, inhabited by a polyglot race of Latin-Americans, and consisting in the main of unending steppes or pampas where cattle graze and gauchos lead an irresponsible out-of-door life. We know little or nothing of its real resources; of its

fine climate and fruitful soil; of its vast geographical and geological interest; of its splendid railway systems; of its commerce, finance, or its higher civilisation as represented by literature and journalism. Mr. Hirst's book gives us a rapid and at the same time a satisfying insight into all these matters.

But while this book should appeal to a very wide public by its terse and vivid descriptions of Ar-



ONE OF THE NEW GOAT-HOUSES AT SAMOIS-SUR-SEINE.

[Copyright.]

gentine life and character, we may specially commend it to the agriculturist. "The real Argentine," says Mr. Hirst, "is the Pampa"—that vast level plain of natural grassland that has given birth to a pastoral industry of enormous dimensions. That and the wheat industry have been from the first the principal production of the country. There is, it is true, some mineral wealth to be gleaned from the mountain districts, but it is insignificant compared with that of, say, Mexico, or Peru. This absence of precious metals has had considerable influence on the colonisation and development of Argentina. In most new countries the discovery of gold or other metals focusses attention on that as the most important part of the land's resources, and other resources, such as those of agriculture, suffer from neglect. This is what has happened in South Africa, where we are only just beginning to realise that there exist sources of material wealth outside Johannesburg and other mining centres. In the case of Argentina there has been no such distraction. Consequently Argentina agriculture has developed steadily, and since the modern era of construction work was inaugurated under President Sarmiento in 1868, and more particularly since the later development of railway facilities, has increased by leaps and bounds. Its one serious enemy is drought; but since modern methods of irrigation have been introduced, even this foe has been kept at bay. Mr. Hirst's book, with its light narrative style, its sound and useful facts, and its splendid illustrations, should have a place in the "foreign" library of every poultry-keeper who is an agriculturist as well.

NOTES FROM CORRESPONDENTS.

NORTHERN IRISH NOTES.

By PERCY A. FRANCIS.

A STONISHINGLY high prices have ruled in the North this season for good table-chickens. A breeder near Portadown—(where, by the way, some of the best cider in the world is made by the Armagh Cider Co.)—showed us upwards of twenty in June, for which he had just refused an offer of 3s. 9d. each from a local "higgler." The birds were only sixteen weeks old, and we noticed several pure-bred Coucou de Malines and White Faverolles amongst them. Mr. Dunneci, the owner, is a keen breeder of pure-bred poultry and makes a speciality of combining utility

down at Gweedore"—and the charming variety of mountain, lake, and river comes as a surprise to many travellers. The narrow gauge railways wind through wide expanses of brown bog, acres and acres of purple heather, and a greater contrast to the scenery seen in most parts of England could scarcely be imagined. In winter, however, the county wears a more forbidding aspect, and the continuous travel which falls to an instructor's lot requires a hardy constitution and plenty of pluck. Villages, and even houses, are far apart, and but for the unvarying kindness of the natives winter travelling would be arduous indeed. There are sixty-five Premium Egg, Turkey, and Goose Stations worked under the Department's scheme in County Donegal, and full advantage is taken by the people of the opportunities offered to improve their poultry. Native Irish is largely spoken in many districts. A short time ago we heard the chairman at a poultry lecture address the audience first in the native tongue, and then in the Saxon.

From Donegal to Meath is a far cry, and brings us to a county where agriculture is practised under vastly



MISS HEALY AND HER POULTRY CLASS AT KILLEIGH, KING'S COUNTY, IRELAND.

qualities and exhibition points in his strains which are now becoming well known. He holds an Egg Station under the Department of Agriculture, and has also been selected by the Department to work their Trap-Nest scheme in County Armagh. Under this scheme one or two poultry-keepers in each county are provided by the Department, free of cost, with trap-nests, scratching-sheds, numbered leg-bands, record books, &c., on condition that an accurate record is kept of all eggs laid by each bird in a certain flock for two years. Much interest is taken in this scheme, and many amusing comments are passed on the "drones," whose true character the trap-nest shows up.

The instructors in dairying and poultry-keeping for County Donegal, Misses Neman and Cope, carry on their duties amidst magnificent scenery. Many a jaded holiday-seeker finds rest for tired nerves under the shadow of Mount Errigal—"Where the water comes

different conditions. Meath is the county of broad acres and flat, rich pastures, practically all under grazing, and therefore admirably suited to the portable house system of poultry-keeping. Miss Daisy Healy, formerly Instructor in King's County, has recently been appointed to County Meath. Miss Healy was trained at the Munster Institute, Cork, and at Cullybackey, County Antrim, so possesses a wide experience of poultry-keeping under different conditions. Miss Steen, of Mandistown House, Ardee, County Meath, owns a fine strain of Barred Plymouth Rocks, for which she holds a station under the Department of Agriculture. For years past Miss Steen has purchased birds from the best English and Irish breeders with a view to improving her stock, which now show a lot of quality. One frequently comes across breeders in Ireland who for many years have gone on quietly improving the variety they have adopted out of love for the breed, as in Miss Steen's case, and this without

constant exhibiting. Miss Steen also keeps Aylesbury Ducks, and is fortunate in living on a large farm, owned by her brother, which provides splendid opportunities for rearing healthy stock.

Miss Ada Nedwill, formerly Instructor in Dairying for Tipperary, is now in charge of the Cullybackey Model Poultry Farm, where she received much of her training in poultry-keeping. Miss Nedwill is also Instructor in Poultry-Keeping for County Antrim, and has twelve egg stations and twenty-five turkey stations in different parts of the county to keep going. Several of these are in the lovely glens of Antrim, where Moira O'Neill lived and wrote her "Songs of the Glens of Antrim," which were published in *Blackwood's Magazine* and the *Spectator* a few years ago.

Over here in England I'm helpin' wi' the hay,
An' I wisht I was in Ireland the livelong day;
Weary on the English hay, an' sorra take the wheat!
Och! Corrymeela an' the blue sky over it.

Visitors to Ireland can see these glens by taking the Coast Road Route from Belfast to Giant's Causeway. This route passes through Cushendall, where Miss McDonnell has worked strenuously to establish a Toy-making Industry on Continental lines and a Co-operative Poultry Society. The Cushendall ponies used to be famous for their hardiness and speed, and attempts have been made by Miss McDonnell and the County Antrim Committee of Agriculture, in conjunction with the Department of Agriculture, to revive the breed through the introduction of specially selected stallions.

Mrs. Porter Harris, Curglasson, Stewartstown, County Tyrone, is a keen poultry and dog fancier. She has a station for White Wyandottes under the Department and keeps also some good Rhode Island Reds, many of her birds having been imported from the States direct. Mrs. Harris is a member of the club for this breed, and has a very high opinion of the Reds' utility qualities, especially with regard to winter laying.

IRISH NOTES.

By MISS MURPHY.

THE enterprise of the Kilkenny Show Committee in providing separate classes for each of the three varieties of Sussex fowls was rewarded by a good entry, all the principal fanciers of the breed being represented. In Light Sussex, first and second prizes fell to the lot of Mr. A. H. Lucas, with two well-known birds, while Miss Egan was third with a beautiful hen. In Reds, Miss Egan was fortunate in capturing first prize, this bird also taking the Sussex Club's medal for the best Sussex in the Show. The second and third prizes in this class went to Mr. Twamley's birds. In the class for the Speckled variety, Mrs. O'Grady, of Coachford, headed the list with a well-known winner, second and third prizes again falling to the lot of Mr. Twamley. So far the three varieties of the breed seem to be making equal headway, but I shall be greatly surprised if the Red does not eventually become the most popular. Its colour, which so often resembles that of a badly-bred Buff Orpington, is against it from the standpoint of appearance, but its good qualities far outweigh any such apparent defect.

It may be, perhaps, that in the advent of the Rhode Island Red, the Red Sussex may find a serious rival, but the former breed will always have its yellow shanks and skin to retard its popularity; and although as a new breed it will be likely to enjoy a boom, it remains to be seen if its good qualities are such as to give it a permanent place in the category of useful breeds; if it proves as valuable as some of the American breeds we already have, it will be heartily welcomed, especially in districts where the land is cold and wet.

As a result of an examination held by the Department of Agriculture and Technical Instruction for Ireland, Miss A. M. Hogan, Ballythomas, Borrisokane, has been placed on the list of Instructors qualified to teach under County Committees of Agriculture in Ireland. Miss Hogan received her training at the Munster Institute, Cork.

June of this year has made a record in rainfall even for Ireland. In Dublin the rainfall for the month was 5.21 inches, and rain fell on nineteen days. In Queen's County the record was 5.58 inches, and the total rainfall from January to June was 22.25 inches. Rearing turkeys under such conditions as prevailed in June, following on the difficulty experienced in chicken-rearing during the earlier months, has made the lot of the poultry-keeper in the past six months a particularly trying one. Fine warm weather has come at last, but, except for an occasional late brood of turkeys, it will make little difference now in the poultry-yard.

NOTES FROM WALES.

By A. T. JOHNSON.

ALTHOUGH August has often been called "the poultry-keepers' holiday," it is the busiest month of the year to a large class of fanciers and utilitarians in the Principality.

It is, in the first place, a month of shows. With the object of securing the patronage of the summer visitors, show executives endeavour to cram all their events into "the season," and, when their shows are "movable feasts," to hold them in places where visitors congregate. This year the list opens with a show and fête at Ruabon. Then comes the Welsh International at Treorchy on the 2nd, the committee of which have issued a first-rate schedule as usual. On the 4th the Vale of Clwyd have their event at Denbigh, and the Denbighshire and Flintshire Society have their big show a week later at Mold. Vaynol Park (Bangor) is fixed for the 13th, and Machynlleth, which is being held for the first time "under Rules," is on the 24th. The above are the more important of a long string of shows which enliven the life of a fancier in Wales during this month.

The utilitarian, on the other hand, is no less busy. For August is "the season" to him just as it is to the visitor or lodging-house keeper. It is now that his harvest begins, and it is now that the annual question arises: Is the supply of poultry produce equal to the enormous demand that is brought about by the influx of tens of thousands of visitors to seaside and country? Unfortunately, the reply must be made in the negative. Eggs, of reliable quality, even in rural districts, are extremely hard to get, while the retailers of poultry in all holiday resorts of any importance are drawing their supplies from Liverpool and Manchester markets. Complaints are heard of the irregularity of local consignments, of the inferiority of qualities, and, even though there is much to be said on behalf of the cottager and farmer who live at a distance from their market and have no system of co-operation to aid them, the fact remains that Taffy, as a poultry-keeper, is behindhand. He does not take advantage of facilities offered him, he is slow to grasp opportunities. No provision is made for ensuring a regular supply of eggs, chickens, or ducklings, so as to be able to meet the requirements of the markets and the increased demand, with the result that, just as the British trade in these commodities has, speaking broadly, drifted into the hands of foreigners, so the Welshman, in his apathy, has allowed the wholesale markets of English provincial towns to step in and do the work that he has failed to accomplish.

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BIBLIOGRAPHY OF POULTRY.

COMPILED BY EDWARD BROWN, F.L.S.

Compiler's Note.—With the object of securing as complete a list as possible of Poultry Books, it is proposed to give from time to time particulars as to such as are known. My own library embraces nearly 350 volumes on this subject, but there must be many not contained therein. I beg respectfully to request the kindly co-operation of owners of books not named, with a view to making the list exhaustive. In sending particulars I request that the following be stated: (1) Full title, and sub-title, if any; (2) Author's complete name, with any information respecting the writer; (3) Place of publication and name of publisher; (4) Date of publication, if given; (5) Number of edition; (6) Number of pages and size of book; (7) If illustrated; and (8) Whether in paper or cloth. Acknowledgment will be made of source of information. The books marked with an asterisk I have not been able to verify, and fuller details will be welcome both as to books and authors.

LIST No. 9 (Continued from page 555, July, 1910).

WORKS PUBLISHED SUBSEQUENT TO 1850.

Peele, R. de Courcey.

ORPINGTONS AND ALL ABOUT THEM.

Idle, Yorks: Fanciers' Newspaper Co., 37 pp., illustrated. 1900. 12mo.

Pelletin, Jules.

* PIGEONS, DINDONS, OIES ET CANARDS.

Paris: Librairie Agricole de la Maison Rustique, 172 pp., illustrated. 1873. 16mo.

Percheron, G.

* LES OISEAUX DE BASSE-COUR. Paris:

372 pp. 1894. 12mo.

Phillips, E. Cambridge, F.L.S.

ON THE ORIGIN OF THE DOMESTIC COCK.

Reprint of Paper read before the Ornithological Congress at Vienna, April, 1884. London: West, Newman, and Co., 8 pp., paper cover. Pamphlet. 1884. 8vo.

Philippe, Emile and Jules.

NOTIONS PRATIQUES SUR L'ÉLEVAGE DES ANIMAUX DE BASSE-COUR PAR LA

MÉTHODE NATURELLE ET ARTIFICIABLE.

Houdan (Seine-et-Oise), France: The Authors, 144 pp., illustrated, paper cover. Undated. 16mo.

Piper, Hugh.

POULTRY. A Practical Guide to the Choice, Breeding, Rearing, and Management. London: Groombridge and Sons, 152 pp., coloured plates.

1871. 12mo.

Second Edition. 1872. 12mo.

Third Edition. 1874. 12mo.

Fourth Edition. 1877. 12mo.

Fifth Edition. 1877. 12mo.

Plantagenet (pseudonym of M. T. Broomhead, Editor of *Poultry*, died 1895).

MANUALS FOR THE MANY. No. IX., Poultry. London: E. H. May, 114 pp., illustrated, paper cover. Undated. 16mo.

Plante, J. B.

* MÉMOIRE SUR LE RÔLE ÉCONOMIQUE DES VOLAILLES. Quebec, Canada, 101 pp.

1901. 8vo.

Popov, D.

DIE DOTTERSACK - GEFÄSSE DES HULNES. Wiesbaden, Germany, 43 pp.

1894. 4to.

Potter, T. F.

DON'T KILL THE LAYING HEN. Downers

Grove, Ill., U.S.A.: T. F. Potter and Co., 32 pp., illustrated, paper cover. 1905. 32mo.

[A booklet describing the Potter System of Laying Hens.]

Poultry Club, London.

(For Standards see Comyns, Alexander; Threlford, T.)

Poultry-Farmer, A.

POULTRY FOR EXHIBITION, HOME, AND

MARKET. With a Chapter on Pheasants and Pheasantries. London: Swan Sonnenschein, Lowrey and Co., 95 pp., illustrated. 1888. 4to.

Powell, Edwin C. (Editor).

MAKING POULTRY PAY. New York:

Orange Judd Co., 307 pp., illustrated.

1907. 12mo.

Preciado y López, José Joaquín.

* DESCRIPCION Y MULTIPLICACION DE LAS PRINCIPALES RAZAS DE GALLINAS É IMPORTANCIA DE SUR PRODUCTOS.

Madrid, Spain: La Guirnalda, 48 pp. 1897.

Prince, Carlos.

* MANUAL DE LA CRFA DE GALLINAS, PAVOS, PINTADOS, FAISANES, PATOS, GAUSOS Y PALOMAS. Lima, Peru: C. Prince, 36 pp. 1888.

Punnett, R. C. (Fellow of Gonville and Caius College Cambridge).

MENDELISM. Cambridge: Macmillan and

Bowes, 63 pp. 1905. 24mo.

Raines, Herbert P.

* THE WYANDOTTE FOWL. London: Feathered World.

* Fifth Edition. Revised by J. P. W. Marx. London: Feathered World, 64 pp., coloured plates, paper cover. 1902. 8vo.

Rankin, James.

NATURAL AND ARTIFICIAL DUCK CUL-

TURE. Boston, Mass., U.S.A.: D. Gunn, 95 pp., illustrated. 1889. 12mo.

*———— Fourth Edition. Revised and Enlarged. South Easton, Mass., U.S.A.: The Author, 97 pp., illustrated, paper cover. 1897. 12mo.

*———— Fifth Edition. Revised and Enlarged. South Easton, Mass., U.S.A.: The Author, 137 pp., paper cover, illustrated. 1906. 12mo.

Ransom, B. H., B.Sc., A.M. (Acting Zoologist, U.S. Bureau of Animal Industry).

THE TAPEWORMS OF AMERICAN CHICKENS AND TURKEYS. Washington, D.C.: U.S. Department of Agriculture, 18 pp., paper cover. 1905. 8vo.

[Reprinted from the Twenty-First Annual Report, 1904.]

Rhode Island Red Club.

RED HEN TALES. Ye Booklette wherein are related some Stories of ye Hens, also some Accounts (paide for by ye Members) of ye Great Beutie and Industrie of ye Rhode Islande Redde Hen; it being ye Third Edition of Publicitie of ye Societie of Hen Admirers yclept ye Rhode Islande Redde Clubbe of America. Boston, Mass., U.S.A., 62 pp., paper cover. 1906. 8vo.

Renwick, E. S.

THE THERMOSTATIC INCUBATOR, ITS CONSTRUCTION AND MANAGEMENT. New York: The Author, 98 pp., illustrated. 1883. 16mo.

Replins, Herr V. (See Houwink, R. Hzn.)

Reports Official. (See Consular Reports; Rew; R. H.; Spencer, A.)

REPORT OF THE DEPARTMENTAL COMMITTEE ON POULTRY-BREEDING IN SCOTLAND. Edinburgh: Oliver and Boyd (Cd. 4616), 18 pp. 1909. Fscp.

Minutes of Evidence. Edinburgh: Oliver and Boyd (Cd. 4617), 148 pp., paper cover. 1909. Fscp.

[Report, &c., of the Murray Committee appointed by the Secretary of State for Scotland, 1908.]

TRAVAUX DU CONGRÈS INTERNATIONALE D'AVICULTEURS CONVOQUÉ PAR LA SOCIÉTÉ IMPÉRIALE RUSSE D'AVICULTURE À ST. PETERSBOURG, MAY, 1899.

St. Petersburg: Trenké et Fusnot, about 300 pp., paper cover. 1901. 8vo.

[A French translation of all the papers read at the St. Petersburg Conference, 1899.]

Rew, R. Henry (new Assistant Secretary of the Board of Agriculture.)

REPORT ON THE POULTRY-REARING AND FATTENING INDUSTRY OF THE HEATHFIELD DISTRICT OF SUSSEX. London: Eyre and Spottiswoode (Cd. 7623), 32 pp., paper cover. 1895. Fscp.

[One of the Sub-Commissioner's Reports presented to the Royal Commission on Agriculture, 1894-6.]

Richardson, H. D.

DOMESTIC FOWL AND ORNAMENTAL POULTRY. New and Enlarged Edition (? 4th). London: W. S. Orr and Co., 180 pp., illustrated, paper cover. (?) 1855. 8vo.

[One of Richardson's Rural Handbooks.]

(To be continued.)

AN EDUCATIONAL EXHIBIT.

AT the Royal Agricultural Show at Liverpool the Lancashire County Council gave an excellent educational exhibition. Forming part of this was a very interesting display of poultry, and if the crowd of visitors who thronged the stand was any criterion, everything was highly appreciated. Many of the exhibits were of a very practical nature and likely to appeal to the poultry-keepers who are so numerous in the County Palatine. Among other useful object-lessons was the different methods of packing eggs in small quantities for both public and private customers, and—perhaps of still greater importance—there was demonstrated the necessary careful handling and packing of eggs that are intended for hatching purposes. Were more care exercised in this direction, complaints would not be so numerous of the poor hatching results from "travelled" eggs.

It is a very common idea that any kind of soil will do for poultry, but this is quite a mistake. The nature of soil has a direct influence on the quality of both eggs and flesh. In this connection it was very interesting and instructive to see exhibited, in square wooden cases, small plots of both suitable and unsuitable soil. The great improvement in the herbage of the plot that had been occupied by fowls was also demonstrated. In close proximity to the bad soil—probably with intention—was shown the trachea of a chicken affected with gape-worms.

Among the exhibits were different samples of dry foods, meat-meal, grit, and other necessary items in the dietary that are suitable for chickens at various stages in their growth. Eggs were shown—broken open for close inspection—that had been preserved for six and for twelve months respectively in a 5 per cent. solution of water-glass. Pale-coloured yolks, to illustrate the influence of certain foods, proved a very attractive feature; as also did the ovaries of a hen when in full lay, alongside those of a pullet in which the ova were very small. The embryos of a duck denoting some of the chief stages of development were also on view.

Petits Poussins, boned fowls, and several methods of tying up poultry for market were also exhibited.

A BOOK ON THE WYANDOTTE.

WE are just in receipt of a revised edition of a book entitled "The Wyandotte," published by the *Reliable Poultry Journal*, Quincy, Ill., and find that it is an authoritative text book and instructive treatise devoted to the different varieties of the Wyandottes—viz., Silver-Laced, Golden, White, Buff, Black, Silver-Pencilled, Partridge, and Columbian. The text and illustrations are based on the changes to appear in the 1910 American Standard of Perfection, and the book is invaluable to breeders of Wyandottes who wish to anticipate future standard requirements. It is edited by J. H. Drevenstedt, a breeder and judge of twenty-five years' experience. It is fully illustrated by Franklane L. Sewell, A. O. Schilling, I. W. Burgess, and others, and in addition to eight full-page latest type Wyandotte charts by Sewell, there are three Sewell colour plates of Silver-Laced, White, and Partridge Wyandottes.

MARKETS AND MARKETING.

Week Ending June 18.

As in the previous week, trade for English poultry of all classes was good. Values were well maintained, but the demand for small chickens showed a marked decline. Ducklings were more plentiful and cheaper, the season for these drawing to a close, but cool weather helped to maintain demand at a good average. Quail were evident in large numbers, and sold at low prices, although in fine condition. Capons were in good demand. Frozen poultry met with a steady sale owing to shortage of English supplies. The trade for foreign eggs was, if anything, a little weaker, the arrivals from abroad being greater than they were the previous week—viz., 493,936 gt. hds. The value of foreign poultry imported amounted to £7,098. Reports from Liverpool indicated a quiet state of trade in eggs. The supplies from Ireland were heavy. Values were low, ranging from 6s. 9d. to 7s. 6d. The Manchester market was also moderate in tone; Irish eggs ranged from 7s. 2d. to 7s. 8d.

Week Ending June 25.

The trade for English poultry was improved; good-sized birds of good quality met with a favourable reception, and chickens, ducklings, and goslings were more plentiful. Capons were in favour. The tone of the foreign egg market was unsatisfactory, trade in this line being unremunerative. The carry-over from the previous week was very heavy, especially with Danish eggs. The stocks both here and in Denmark were unusually heavy. The quality was not, in consequence, up to the usual average. On the Liverpool, Manchester, Birmingham, and Glasgow markets the egg trade was dull. The trade in English eggs was inclined to be weaker in sympathy, but falling supplies helped matters and steadied any serious tendency towards decline in values. The imports of foreign eggs amounted to 451,243 gt. hds., the value of foreign poultry to £6,654, and game to £10.

Week Ending July 2.

Brisk trade for English poultry was the feature of the week. The public were, however, demanding fair size; small chickens did not do so well. The dwindling stocks of best foreign poultry acted as a stimulus. Returns to producers were remunerative so long as quality was good. Capons met with favour, realising from 4s. 6d. to 6s. 6d., selling readily. Ducklings and goslings were plentiful and values promised to be maintained in spite of the season getting late.

Week Ending July 9.

English chicken were more plentiful, but not sufficient to meet demand. Ducklings were plentiful and cheap. This class of trade is strictly a West-End one, the mass of consumers not being able to afford this luxury. Capons met with good demand, specially large ones. There were some of the best on the market that there had been for a long time. One specially good pair realised 22s. The trade for foreign eggs improved, values ruling 6d. higher, due entirely to the falling-off in quantities received—viz., 268,128 gt. hds. The imports of poultry amounted to £4,863 in value and those of foreign game to £16.

Week Ending July 16.

Trade in English poultry was much improved, being helped by the shortage of the best class of foreign poultry. Practically all American cold-stored chickens were disposed of and no more are expected till next December, unless prices in America break away. Capons were fairly plentiful, and in much demand, selling freely at good values. There was also a fair supply of Petits Poussins, but of inferior quality, being rather old and yet not old enough to be sold as Poulet de Grain. Quail were very plentiful and in excellent condition, selling at very low values.

The trade in foreign eggs was firmer owing to shortage of supplies. The arrivals for the week amounted to 289,136 gt. hds. The demand was strongest for best quality, inferior goods sold slowly. The rise in values was inclined to check demand during the early part of the week, but matters improved towards the end. The Liverpool market was very firm, both for Irish and Continental eggs. Irish hens' eggs realised 8s. to 9s., and ducks 8s. 9d. On the Manchester markets much the same conditions ruled as at Liverpool; also the Birmingham markets were good. At Glasgow the market was very strong, the supply of Irish eggs being short. The value of the imports of poultry for the week amounted to £2,801, and for game £15.

The trade for English eggs was very good, the seaside season helping matters very materially, and values ruled high, demand being greater than supply.

MARKETING EGGS.

IT is a well-known fact that one of the reasons, perhaps the chief reason, why the foreigner has secured so firm a hold on the English egg trade is that he has fully realised the vital importance of marketing his produce quickly and in an attractive manner. The methods of collection and distribution in vogue in some of the Continental countries are excellent, while so far as grading and packing are concerned, the foreigners can certainly teach us some useful lessons. The fact that the countries of production are comparatively a long way off makes it impossible for the eggs to arrive in this country before their first freshness has departed. English producers, if they but take full advantage of their opportunities, have nothing to fear from their foreign rivals in so far as the first-class trade is concerned. The new-laid egg trade is the only one which our poultry-keepers should aim for; they should refuse to cater for any other.

Home producers ought really to have very little to fear from their foreign rivals, but, as a matter of fact, it frequently happens that foreign consignments of eggs arrive in this country in a better condition than those produced within fifty miles of London. A favourite excuse that is constantly being brought forward to account for the vast supplies we receive from abroad—and last year the value of foreign eggs arriving in this country amounted to the almost incredible sum of £7,235,302—is that the conditions there are more

TABLE OF PRICES REALISED FOR HOME, COLONIAL, AND FOREIGN POULTRY, GAME, AND EGGS FOR THE FOUR WEEKS ENDING JULY 16, 1910.

ENGLISH POULTRY—LONDON MARKETS.

DESCRIPTION.	PRICES REALISED DURING THE MONTH.			
	1st Week.	2nd Week.	3rd Week.	4th Week.
	Each.	Each.	Each.	Each.
Surrey Chickens	3/6 to 5/6	3/6 to 5/6	3/6 to 5/6	3/6 to 5/6
Sussex	3/6 " 5/6	3/6 " 5/6	3/6 " 5/6	3/6 " 5/6
Yorkshire	2/6 " 4/0	2/6 " 4/6	2/3 " 3/6	2/6 " 4/0
Boston	2/6 " 4/0	2/6 " 4/6	2/3 " 3/6	2/6 " 4/0
Essex	2/6 " 4/0	2/6 " 4/6	2/3 " 3/6	2/6 " 4/0
Capons	4/6 " 6/6	5/0 " 6/0	4/6 " 6/6	4/6 " 6/6
Irish Chickens	2/3 " 3/6	2/3 " 3/6	2/3 " 3/6	2/3 " 3/6
Live Hens.....	1/9 " 2/6	1/9 " 2/6	1/9 " 2/6	1/6 " 2/6
Aylesbury Ducklings..	2/9 " 4/0	2/6 " 4/0	2/6 " 4/0	2/6 " 4/0
Ducks	2/6 " 3/0	2/3 " 3/0	2/3 " 3/0	2/3 " 3/0
Geese.....	4/6 " 5/6	4/6 " 5/6	4/6 " 6/0	4/6 " 6/6
Turkeys, English ...	—	—	—	—
Poussins	—	—	—	1/0 " 1/6

ENGLISH GAME—LONDON MARKETS.

DESCRIPTION.	PRICES REALISED DURING THE MONTH.			
	1st Week.	2nd Week.	3rd Week.	4th Week.
	Each.	Each.	Each.	Each.
Grouse	—	—	—	—
Partridges.....	—	—	—	—
Pheasants	—	—	—	—
Black Game	—	—	—	—
Hares	—	—	—	—
Rabbits, Tame	1/3 to 2/0	1/0 to 2/0	1/0 to 2/0	1/0 to 2/0
" Wild	—	—	1/6 " 1/0	1/0 " 1/0
Pigeons, Tame	—	—	—	—
" Wild	—	—	—	—
Wild Duck	—	—	—	—
Woodcock	—	—	—	—
Snipe.....	—	—	—	—
Plover	—	—	—	—

ENGLISH EGGS.

MARKETS.	PRICES REALISED DURING THE MONTH.			
	Per 120.	Per 120.	Per 120.	Per 120.
LONDON	9/0 to 10/6	9/0 to 10/6	9/6 to 11/6	10/0 to 11/8
Provinces.	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-
MANCHESTER ...	—	—	—	—
BRISTOL	—	—	—	—

FOREIGN POULTRY—LONDON MARKETS.

COUNTRIES OF ORIGIN.	PRICES REALISED DURING THE MONTH.			
	Chickens. Each.	Ducks. Each.	Ducklings. Each.	Geese. Per lb.
Russia	1/3 to 3/0	1/9 to 2/0	—	—
Belgium	—	—	—	—
France	per lb.	per lb.	—	—
United States of America	0/10 to 1/0	0/10 to 1/0	—	—
Austria	—	—	—	—
Canada.....	—	—	—	—
Australia	—	—	—	—

IMPORTS OF POULTRY AND GAME. MONTH ENDED JUNE 30, 1910.

FOREIGN GAME. LONDON MARKETS.	Price Each During Month.	COUNTRIES OF ORIGIN.		DECLARED VALUES.	
		Game.	Poultry.	Game.	Poultry.
Capercailzie	1/0 to 1/3	—	—	—	—
Black Game.....	0/8 " 0/10	—	—	—	—
Partridge.....	0/9 " 1/8	—	—	—	—
Quail	0/3 " 1/0	—	—	—	—
Bordeaux Pigeons	0/10 " 1/6	—	—	—	—
Hares	2/0 " 2/9	—	—	—	—
Rabbits	0/6 " 0/8	—	—	—	—
Pheasants	1/9 " 2/6	—	—	—	—
Totals	—	£1,785	£23,325	—	—

IRISH EGGS.

DESCRIPTION.	1st Week.	2nd Week.	3rd Week.	4th Week.
	Per 120.	Per 120.	Per 120.	Per 120.
Irish Eggs	7/3 to 8/0	7/3 to 8/6	7/6 to 8/9	7/6 to 9/0

FOREIGN EGGS.

DESCRIPTION.	1st Week.	2nd Week.	3rd Week.	4th Week.
	Per 120.	Per 120.	Per 120.	Per 120.
French ...	8/0 to 9/0	7/0 to 9/0	7/0 to 9/0	—
Danish ...	7/9 " 9/6	7/0 " 9/6	7/3 " 9/9	—
Italian ...	6/9 " 9/0	5/9 " 9/6	6/0 " 9/6	—
Austrian ...	5/6 " 7/0	5/6 " 7/0	5/6 " 7/0	—
Russian ...	5/0 " 7/0	4/7 " 7/0	4/9 " 6/6	—
Australian..	—	—	—	—
Canadian..	—	—	—	—

IMPORTS OF EGGS. MONTH ENDED JUNE 30, 1910.

COUNTRIES OF ORIGIN.	Quantities in Gt. Hund.	Declared Values.
Russia	1,184,266	£357,799
Denmark	353,154	142,947
Germany	12,407	4,226
Italy	64,954	26,302
France	109,577	44,073
Austria-Hungary	33,719	13,511
Australia	—	—
Other Countries	106,686	39,113
Totals.....	1,864,763	£627,071

favourable, and that eggs can be produced more cheaply. This is, however, an excuse that does not bear examination, since there are few countries in the world where the conditions are more favourable to poultry than they are in Great Britain. More than this, we have the finest markets at our very doors, while the demand for high-grade eggs and poultry is greater to-day than has ever previously been the case. The fault is not in the climate; the fault lies with the poultry-keepers of this country.

Freshness is a supremely important point in the marketing of eggs, and if we are going to secure the best prices, then they must be dispatched to market with the least possible delay. An egg is a perishable article, as much so as milk, and it should be disposed of immediately; one that is more than three days old is not new-laid, and has no business to be sold as such. Many of the so-called new-laid eggs retailed in the shops are new-laid in name only. The grades of freshness appear to vary in accordance with the shopkeeper's personal opinion. There are new-laid eggs, fresh eggs, country eggs, breakfast and so on, but what the differences are between these various grades it is impossible to say. French eggs can be bought in London not more than four days old, and to compete successfully with these, it is imperative that the home-produced article shall be marketed as soon as possible. It is largely a question of organisation, and the work that the National Poultry Organisation Society has accomplished in this direction is very marked indeed. It has done excellent work in the past, but much still remains to be done.

Until within the last year or two British poultry-keepers have quite failed to realise the advantages of grading eggs into their respective sizes. All the eggs that arrive in this country from abroad are divided into three, sometimes six, sizes, and only eggs of one size are packed in the same crate. A number on the outside of the package denotes the size of the contents, and consequently it is unnecessary for dealers to examine the eggs, since they can rely upon the sign being correct. A plan that is not at all uncommon, though an extremely foolish one, is to pack the larger eggs upon the top row, placing the smaller ones beneath, in this manner hoping to secure a higher price. This may possibly answer once or twice, but very soon it is discovered, and it will inevitably damage the producer's reputation. It is better not to market any very large eggs, since they are bound to dwarf the remainder, making them appear smaller than they really are. When the method of selling eggs by weight instead of by number is adopted it will not matter mixing up the various sizes, but at the present time such a plan is a mistake. Grading, after a little practice, becomes extremely simple. There are two methods commonly employed; in one case a board is used, with three holes cut therein, each the shape of an egg, but varying in size. The eggs that pass through one hole are one size, those through another are the second size, while those that pass the smallest hole are the third. In Denmark grading is generally done by hand, but this requires an enormous

amount of practice, as the differences are so slight. When a very large number of eggs are being handled a machine is employed.

Cleanliness is a very important factor in the marketing of any class of produce, and eggs are certainly no exception to the rule. Rather than send a dirty egg to market it should be washed, but since there is as much bloom on a new-laid egg as there is upon a grape, which washing entirely removes, this should never be done if it can be avoided. The nests and places where the birds lay should be clean, and then the eggs cannot become soiled. Not only is the appearance of a dirty egg distasteful, but the flavour is injuriously affected. There are few things more easily influenced by its surroundings than an egg.

REVIEWS.

THE KEEPER'S BOOK.

THE KEEPER'S BOOK. A Guide to the Duties of a Gamekeeper. By P. Jeffrey Mackie and A. Stodart Walker. Sixth Edition. T. N. Foulis.

THE re-issue of this excellent handbook should be welcomed as much by the sportsman as by him for whose benefit it is expressly written—the gamekeeper; for it is not only a manual of useful instruction to the aspirant in the latter class, but also possesses the charm that is always exercised by a good book on the habits and the shooting of game upon all sportsmen except those whose interest does not extend beyond the mere desire to kill something. Those who have read a work like Sir R. Payne-Gallwey's volume on shooting will have realised this fascination; and in "The Keeper's Book" it is not less potent because the book assumes that what interests the sportsman must also interest the keeper, and *vice versa*.

It is a book of candid sayings. There is no attempt to extol the keeper-class, which, the authors assert, does not in the main come up to the uniform efficiency of other skilled labour. While, of course, there are good keepers, one might even say inspired keepers, a very large proportion are the reverse. The necessity of tact in a keeper in regard to keeping on good terms with his neighbours is specially insisted upon; he is advised to be civil to his inferiors; he is warned against the old-fashioned practices that are still maintained on many of the best shootings, largely as a result of ignorance of natural history facts. Very full information is given as to the snaring and killing of foxes, as much the scourge of game as of poultry, in *non-hunting* districts, but it is simply acknowledged that elsewhere the fox "lives the life of a licensed freebooter . . . protected even by the 'ruthless' gamekeeper." There is a note of acquiescence in this state of affairs that contrasts rather curiously with a subsequent strongly worded indictment of the Wild Birds Protection Act, which is described as "pseudo-humanitarian sentiment" in its application to birds of prey, and which urges the destruction of the latter "in the interests of the food supplies of the nation." Which is precisely the poultry-keeper's point as regards foxes, "national sport" or not. But this is the only instance where the sporting point of view appears a trifle inconsistent, and the book, with its admirable

Owing to extreme pressure on our space this month we are compelled to hold over "Answers to Correspondents." We have, however, replied to all our correspondents by post.

chapters on the training and care of dogs, on every kind of shooting from grouse and deer to wild duck, on fishing preserves from the gillie's point of view, and on the laws that relate to each and all of these, should maintain its popularity for a long time.

A TWENTY-FIRST BIRTHDAY.

WE very heartily congratulate our contemporary the *Feathered World* on the appearance on July 8 of its twenty-first birthday number. Twenty-one years in the life of a newspaper is a long period, embracing, as it must, many trials and rough experiences, but we are happy to know that the *Feathered World* has weathered all storms and to-day is in an almost impregnable position. It will be remembered by our readers that in the April number we had the pleasure of including Mrs. Comyns-Lewer, the Editor, in our "Who's Who," when a few particulars were given regarding her career. The Birthday Number is an extremely interesting one, containing two coloured plates and a profusely illustrated supplement printed on art paper. Portraits are given of the leading contributors, artists, and reporters, while a page is devoted to "Mr. and Mrs. Lewer and the Sub-Editors," the Sub-Editors being the Misses Lewer and Mr. Lewer, jun. Altogether the number is an exceedingly attractive one, and we offer our contemporary our hearty congratulations and best wishes for future success.

CLUBS AND SOCIETIES.

THE POULTRY CLUB.

THE monthly meeting of the Council was held on Friday, July 8, at 2 p.m., at the London Chamber of Commerce, Oxford Court, Cannon Street, London, E.C., when there were present: Mr. H. Wallis (chair), Messrs. L. C. Verrey, J. Horn, F. J. Broomhead, W. W. Broomhead, W. Richardson, T. Firth, W. M. Bell, F. J. S. Chatterton, and G. Tyrwhitt-Drake (hon. secretary and treasurer).

NEW MEMBERS.—The following were duly elected: Recommended by Kent Branch—Mr. F. Hide, Orchard House, East Malling; Mr. A. E. Brown, Bickley Hotel, Chislehurst; Miss Letty Lind (Mrs. Harraton), 4, Stanhope Street, Hyde Park Gardens, W.; Mr. G. Bradley, Blackthornhill House, Bicester, Oxon; Mr. Andrew Leitch, The Cottage, Cameronbridge, Fife, N.B.; and Mr. John Wm. Butterfield, Ferndene, Benthams, near Lancaster.

AFFILIATION.—The following societies were duly associated: Recommended by Yorkshire Branch—Burley-in-Wharfedale Show, hon. secretary, Mr. W. E. Topham, Highfield, Burley-in-Wharfedale, Yorks. Recommended by Surrey Branch—Cobham and District Fanciers' Society, hon. secretary, Thomas Steele, 4, Portsmouth Road, Cobham, Surrey. Recommended by Essex Branch—Dunmow Farmers' Association Poultry Show, secretary, Mrs. Eleanor Nash, Langthornes, Dunmow. Recommended by Kent Branch—Brasted, Sundridge and District Fanciers' Association, hon. secretary, Mr. J. Downie, Laurel Cottage, Brasted, Kent.

SPECIALS GRANTED.—The following shows were announced to be held under Club Rules, and specials were accordingly allotted: Dunmow, Hadleigh, Radstock, Burley-in-Wharfedale, Oswestry, Wiveliscombe, Bolton, Lancaster, Adlington, and Llangollen.

CORRESPONDENCE.—A letter was read from the Rev. T. W. Sturges, asking if an associated society need pay a subscription if it does not hold a show during the year. The hon. secretary was instructed to inform Mr. Sturges that an associated society can drop out of the list of associated societies, and apply to be reinstated when it wishes. Other correspondence was read by the hon. secretary, who was instructed to deal with it.

STANDARDS SUB-COMMITTEE HONORARIUM.—The sum of ten guineas was voted as an honorarium to Mr. W. W. Broomhead, the editor of the new edition of the standards; and the chairman, on behalf of the Council, asked Mr. Broomhead to accept this sum and also the sincere thanks of the Council for the work he had done.

The next meeting of the Council will be held at the London Chamber of Commerce, Oxford Court, Cannon Street, London, E.C., on Friday, August 12, at 2 p.m. Names of prospective members and affiliated societies, with subscriptions (which must be paid in advance), must reach the hon. secretary on or before August 5, or, if the would-be member reside in a county having a county branch, through the secretary of that branch.

FREDERICK J. BROOMHEAD,
Vice-President;
G. TYRWHITT-DRAKE,
Hon. Secretary and Hon. Treasurer.

THE SUSSEX BRANCH.

THE Sussex Branch of the Poultry Club held a Committee meeting at the Sussex Agricultural Show at Eastbourne on July 14. Mr. Chown (in the chair), and Messrs. Bartlett, Doughty, G. Saunderson, Sharpe, Simpson, and W. Richardson, hon. secretary, were present. The Minutes of the last Committee meeting were read and confirmed. Mr. S. Dobson, Horton Hall, Small Dole, Sussex, was elected a member. The balance-sheet showing a balance of £10 14s. 10d., was read and passed. It was decided to ask Mr. Drake to represent the Poultry Club at Hayward's Heath Show.

W. RICHARDSON, Hon. Secretary.

THE NATIONAL POULTRY ORGANISATION SOCIETY.

THE monthly meeting of the Central Executive Committee was held at 20, Arlington Street, S.W., on Friday, July 8, 1910. Present: Colonel R. Williams, M.P. (treasurer, in the chair), the Marchioness of Salisbury, the Dowager Countess of Arran, Colonel Victor Van de Weyer, Mr. M. L. Vaughan Davies, M.P., Major Carr Glyn, D.S.O., Mr. E. T. S. Dugdale, Mr. B. W. Horne, Mr. Frederick Verney, M.P. Officials: Mr. Edward Brown, F.L.S. (hon. secretary), Mr. Verney Carter (organising secretary), and Mr. F. A. Hazelwood (assistant secretary). Apologies for non-attendance were received from Miss Georgiana Buller and Mr. C. E. Brooke.

MINUTES.—The minutes of previous meeting held on June 10 were read and signed as correct.

FINANCE.—The statement of receipts and expenditure for the month of June was submitted and approved. The following donations were reported: Colonel V. Van de Weyer, £25; Lady FitzGerald, £10; R. J. Wallis Jones, £2 2s. Various accounts were submitted for payment, approved, and cheques signed accordingly.

APPLICATIONS FROM NEW DEPOTS.—Applications for association with the N.P.O.S. was received from the East Devon Agricultural Produce Society, Ltd., and of another society. The affiliation of the East Devon Society with the N.P.O.S. was formally sanctioned, but the other was held over pending inquiries.

CONFERENCE WITH MASTERS OF FOXHOUNDS ASSOCIATION.—The Report of Conference with the Masters of Foxhounds Association was submitted. A recommenda-

tion therein provided for a Standing Joint Committee to represent the interest of Poultry-Keepers, and the appointment on such Committee of the present delegates of the N.P.O.S.—namely, the Hon. Mrs. Wilmot and Mr. Edward Brown, F.L.S.—was confirmed.

ELECTION OF MEMBERS.—Seven members of Council were elected as follows: Major Geoffrey Carr Glyn, D.S.O., Howbury Hall, Bedford; Lady Hoare, Sidestrand Hall, Cromer; The Lady Montgomerie, Eglinton Castle, Irvine, Ayrshire; Captain Clive Morrison-Bell, M.P., 88, St. James's Street, S.W.; Mr. Staley W. Spark, Cocoa-tree Club, St. James's Square, S.W.; Mr. Alan J. Sykes, M.P., South View, Cheadle, Cheshire; Mrs. Florence Taylor, Mount Pleasant, St. Briavels, S.O., Gloucestershire.

EDWARD BROWN,
Hon. Secretary.

THE COMBINED SPECIALIST CLUB SHOW.

AT a recent meeting it was announced that the following clubs have definitely decided to hold their club shows at Sheffield: Ancona, Andalusian, Blue Langshan, British Minorca, White Leghorn, Rosecomb Black Leghorn, Black Orpington, Buff Orpington, Jubilee Orpington, White Orpington, Langshan (Society, for Blacks and Whites only), Indian Game, Plymouth Rock, Sussex Variety Bantam, Partridge Wyandotte, Silver Pencilled Wyandotte, and White Wyandotte. The total is good, but I have seen better at the Palace. However, if the first event goes off well the second will doubtless be an improvement. The guarantee fund, I understand, exceeds £160.

W. W. B.

THE BUFF ORPINGTON CLUB.

A COMMITTEE meeting was held at the Royal Show, Liverpool, on Tuesday, June 21, 1910.

PRESENT.—The Rev. T. W. Sturges, Messrs. J. Turner, W. H. Cook, W. Evans, F. Bloomer, J. Wilkinson, J. Entwisle, W. G. French, W. M. Bell, and W. J. Golding (hon. secretary). The Rev. T. W. Sturges was voted to the chair.

APOLOGIES.—Letters of apology for inability to attend the meeting were received from Messrs. Frank Bateman and E. A. Cass.

The Minutes of the last Committee meeting were read and confirmed.

The arrangements for the forthcoming Club Show, to be held at Sheffield on December 7 and 8 next, were discussed. It was decided to offer similar classification to that of last year, and that the club should make a grant of £6 8s. to increase the prize-money in the respective classes. Mr. W. J. Golding will judge cocks and cockerels, and Mr. James Turner hens and pullets.

It was resolved to offer two pieces of silver plate value £3 3s. each, one for the best cock or cockerel, the other for best hen or pullet at the forthcoming Birmingham Show, Mr. F. Bloomer being the appointed judge.

It was decided also to offer two similar prizes to the Crystal Palace Show, providing a Club Judge is appointed.

Several letters were read, and the Hon. Secretary instructed to deal with same.

W. J. GOLDING,
Hon. Secretary and Treasurer.
Westwood Farm, Weald, Kent.

BRITISH RHODE ISLAND RED CLUB.

MAY I remind all those interested in Rhode Island Reds that the Club year commences on August 1 next? I shall be glad if anyone who wishes to join the Club will communicate with me as soon as possible, as the election of Executive Officers and Club Judges will take place early in August. The annual subscription is 5s.

I may add that the Club is in an excellent financial position, and classes are being guaranteed at Manchester, Bingley, Hayward's Heath, Crystal Palace, Blairgowrie, and York Shows, at all of which special prizes, restricted to members of the Club, will be given.

GEORGE SCOTT,
Hon. Secretary.

The Windmill, Pudsey, Yorks.

RAILWAY ANNOUNCEMENTS.

A Railway Newspaper.

To announce their summer holiday arrangements the London and North-Western Railway Company have issued a twelve-page newspaper—the "North-Western News." Its contents, however, do far more than merely give information relating to trains, excursions, and fares. They include many extremely interesting and ably written articles dealing with the many holiday grounds served by this railway, and with a wide variety of subjects connected with problems of railway administration.

The "North-Western News" is being distributed gratuitously, and should be read by everyone before the place for the summer holiday is chosen.

Express Services to Harrogate.

The bookings to Harrogate have been so heavy since the recent extension of the Royal Baths and other facilities for utilising the famous mineral springs, that the Great Northern Railway, who have the shortest route from London and the quickest train service, have put on an entirely new train to accommodate the rush of passengers.

This train leaves King's Cross at 2.15 p.m. daily, arriving in Harrogate at 6.41 p.m. As with the other thirty-six trains run daily by the company to Harrogate, restaurant and corridor cars are used. In addition to this new train, express trains which perform the journey of 203 miles in four hours leave London at 11.20 a.m., 1.40 p.m., 2.20 p.m., 3.25 p.m., 4 p.m., and 5.30 p.m.

A new service of trains between London and Bradford and Leeds has been started by the Great Northern Railway, performing the journey from London to Bradford in the record time of 3 hours 40 minutes, or 33 minutes quicker than the fastest train now running there by any route. The train stops at Doncaster and Wakefield only.

The East Coast Resorts.

The nineteen East Coast resorts served by the Great Eastern Railway are being well catered for this year. Express trains for business men will run daily to and from Clacton, and on Saturdays a midnight supper train. The whole of the services to the coast are augmented. A new luncheon-car express leaves London at 12.35 p.m. for Yarmouth, and on all branches a full service is given. Special tourist, fortnightly, and week-end tickets, and a series of cheap holiday season tickets to some of the Norfolk and Suffolk Coast towns are issued. The new turbine steamer St. Petersburg will, it is expected shortly be added to the company's Hook of Holland fleet.